



Charles E. Kellogg



NOTES
ON
VISIT TO SOVIET UNION
1945

Charles E. Kellogg



ADEN (G-21) British. Area 80 sq. mi. Pop. 48,338. Capital ADEN AFGHANISTAN (E-23) Monarchy. Pop. 12,000,000. Capital KABUL ALASKA (8-4) U. S. Territory. Pop. 59,278. Capital JUNEAU ALBANIA (D-20) Monarchy. Pop. 1,000,124. Capital TIRANE ALGERIA (E-19) French. Pop. 7,234,684. Capital ALGER ANGLO-EGYPTIAN SUDAN (G-20) Br.-Egypt. Pop. 5,767,818. Capital KHARTOUM ANGOLA (J-20) Port. Pop. 3,225,015. Capital SAO PAULO DE LOANDA ARGENTINA (L-14) Republic. Pop. 12,402,068. Capital BUENOS AIRES AUSTRALIA (K-3) Commonwealth. Pop. 6,753,114. Capital CANBERRA BALUCHISTAN (F-23) British. Pop. 888,817. Capital QUETTA BASUTOLAND (K-20) British. Pop. 631,000. Capital MASERU	BECHUANALAND (K-20) Brit. Prot. Pop. 265,756. Capital MAFIKING BELGIAN CONGO (I-20) Belgian. Pop. 8,840,326. Capital LEOPOLDVILLE BELGIUM (C-19) Kingdom. Pop. 8,298,800. Capital BRUXELLES BHUTAN (F-1) Kingdom. Pop. 300,000. Capital THIMPHU BOLIVIA (I-19) Republic. Pop. 3,170,787. Capital LA PAZ BURMA (J-15) Republic. Pop. 47,794,749. Capital RANGOON BRITISH HONDURAS (G-13) British. Pop. 55,848. Capital BELIZE BUTAN (D-20) Kingdom. Pop. 400,000. Capital THIMPHU CANADA (C-12) Dominion. Pop. 10,787,000. Capital OTTAWA CHINA (E-14) Republic. Pop. 450,718,844. Capital PEKING CHINA (E-14) Republic. Pop. 450,718,844. Capital PEKING	CHOSON (E-3) Japanese. Pop. 22,899,038. Capital KEJU COLOMBIA (H-14) Republic. Pop. 6,885,000. Capital BOGOTA COSTA RICA (G-13) Republic. Pop. 577,833. Capital SAN JOSE CUBA (F-13) Republic. Pop. 4,008,183. Capital HAVANA DENMARK (C-13) Kingdom. Pop. 3,708,349. Capital COPENHAGEN DOMINICAN REPUBLIC (G-14) Republic. Pop. 1,478,131. Capital SANTO DOMINGO ECUADOR (I-13) Republic. Pop. 2,701,682. Capital QUITO EGYPT (F-20) Kingdom. Pop. 14,217,864. Capital CAIRO EL SALVADOR (G-13) Republic. Pop. 1,574,485. Capital SAN SALVADOR ESTONIA (C-20) Republic. Pop. 1,128,413. Capital TALLINN FINLAND (B-20) Republic. Pop. 3,788,844. Capital HELSINKI FRANCE (D-19) Republic. Pop. 605,989. Capital PARIS	FRENCH EQUATORIAL AFRICA (H-20) French. Pop. 3,323,628. Capital BRAZZAVILLE FRENCH INDOCHINA (G-2) French. Pop. 23,230,000. Capital HANOI FRENCH WEST AFRICA (G-19) French. Pop. 14,468,828. Capital DAKAR GAMBIA (G-17) British. Pop. 199,520. Capital BATHURST GERMANY (C-19) Republic. Pop. 65,951,848. Capital BERLIN GOLD COAST AND PROT. (H-18) British. Pop. 3,700,267. Capital ACCRA GREAT BRITAIN (C-19) Kingdom. Pop. 44,337,444. Capital LONDON GREECE (E-20) Kingdom. Pop. 8,800,000. Capital ATHENS GUATEMALA (G-12) Republic. Pop. 2,245,593. Capital GUATEMALA GUAYANA BRITISH (H-15) British. Pop. 323,218. Capital GEORGETOWN	GUAYANA, French (H-15) French. Pop. 30,808. Capital CAYENNE HAWAII (G-14) Republic. Pop. 3,000,000. Capital PORT AU PRINCE HAWAII (F-8) U. S. Territory. Pop. 384,437. Capital HONOLULU HONDURAS (G-13) Republic. Pop. 962,685. Capital TEGUCIGALPA HUNGARY (D-20) Kingdom. Pop. 11,197,993. Capital BUDAPEST ICELAND (B-17) Kingdom. Pop. 115,870. Capital REYKJAVIK INDIA (F-24) British. Pop. 352,837,778. Capital NEW DELHI INDONESIA (I-21) Republic. Pop. 3,560,458. Capital BAGHDAD IRELAND (E-18) British Dominion. Pop. 2,955,854. Capital DUBLIN ITALY (D-19) Kingdom. Pop. 42,527,561. Capital ROMA	JAPAN (E-4) Empire. Pop. 87,687,555. Capital TOKYO KENYA (H-21) British. Pop. 3,084,351. Capital NAIROBI LATVIA (C-20) Republic. Pop. 1,950,502. Capital RIGA LIBERIA (H-18) Republic. Pop. 717,683. Capital MONROVIA LIBYA (F-20) Italian. Pop. 717,683. Capital TRIPOLI LITHUANIA (C-20) Republic. Pop. 2,397,008. Capital KAUNAS MADAGASCAR (E-22) French. Pop. 3,772,569. Capital TANANARIVE MALAY (G-13) Empire. Pop. 3,772,569. Capital MANILA MEXICO (F-12) Republic. Pop. 16,552,722. Capital MEXICO MOROCCO (E-18) Sultanate (Fr. Prot.) Pop. 1,376,325. Capital RABAT MOROCCO (E-18) Sultanate (Sp. Prot.) Pop. 755,202. Capital CETAN	MOZAMBIQUE (J-21) Portuguese. Pop. 4,895,750. Capital LOURENCO MARQUES NETHERLANDS (C-19) Kingdom. Pop. 8,474,506. Capital 'S GRAVENHAGE NETHERLANDS INDIES (I-21) Netherlands. Pop. 6,727,233. Capital BATAVIA NEWFOUNDLAND & LABRADOR (D-15) British. Pop. 294,304. Capital ST. JOHN'S NEW ZEALAND (M-5) British Dominion. Pop. 1,573,810. Capital WELLINGTON NICARAGUA (G-13) Republic. Pop. 750,000. Capital MANAGUA NIGERIA (G-19) British. Pop. 19,818,516. Capital LAGOS NORTHERN IRELAND (C-18) British. Pop. 1,293,000. Capital BELFAST NORTHERN RHODESIA (J-20) British. Pop. 1,376,325. Capital LUSAKA	NORWAY (B-19) Monarchy. Pop. 2,884,300. Capital OSLO NASALAND (I-21) British Prot. Pop. 1,608,438. Capital ZOMBA OMAN (F-22) Sultanate. Pop. 500,000. Capital MUSCAT PALESTINE (E-21) British Mandate. Pop. 1,416,818. Capital JERUSALEM PANAMA (H-13) Republic. Pop. 467,485. Capital PANAMA PARAGUAY (I-15) Republic. Pop. 926,580. Capital ASUNCION PERU (I-13) Republic. Pop. 6,500,000. Capital LIMA PHILIPPINE ISLANDS (G-3) Commonwealth. Pop. 13,099,405. Capital MANILA POLAND (C-20) Republic. Pop. 32,348,098. Capital WARSAW PORTUGAL (E-18) Republic. Pop. 7,280,000. Capital LISBOA	PORTUGUESE GUINEA (G-17) Portuguese. Pop. 380,403. Capital BOLAMA Puerto Rico (G-14) United States. Pop. 1,723,534. Capital SAN JUAN RIO DE ORO (F-18) Spanish. Pop. 25,000. Capital VILLA CISNEROS RUMANIA (D-20) Kingdom. Pop. 19,319,330. Capital BUCURESTI SAUDI ARABIA (J-20) British. Pop. 2,483,088. Capital RIYADH SCOTLAND (C-18) British. Pop. 4,985,300. Capital EDINBURGH SIERRA LEONE & PROTECTORATE (H-18) British. Pop. 1,773,967. Capital FREETOWN SOMALILAND, BRITISH (H-22) British. Pop. 344,700. Capital BERBERA SOMALILAND, FRENCH (H-22) French. Pop. 44,240. Capital DIBOUTI	SOUTHERN RHODESIA (J-20) British. Pop. 1,289,441. Capital SALISBURY SOUTH-WEST AFRICA (K-20) Un. of S. Afr. Mandate. Pop. 360,067. Capital WINDHOEK SPAIN (D-19) Republic. Pop. 24,583,088. Capital MADRID STRAITS SETTLEMENTS & MALAY STATES (H-1) British. Pop. 4,430,072. Capital SINGAPORE SURINAM (Neth. Guiana) (H-15) Netherlands. Pop. 144,553. Capital PARAMARIBO SWEDEN (E-20) Kingdom. Pop. 6,249,488. Capital STOCKHOLM SWITZERLAND (D-19) Republic. Pop. 4,068,400. Capital BERN SYRIA (E-21) French Mandate. Pop. 2,483,088. Capital DAMASCUS TANGANYIKA (I-21) Br. Mandate. Pop. 5,104,633. Capital DAR ES SALAAM THAILAND (Siam) (G-1) Monarchy. Pop. 13,502,000. Capital BANGKOK	TUNISIA (E-19) French. Pop. 2,410,632. Capital TUNIS TURKEY (E-21) Republic. Pop. 16,200,694. Capital ANKARA UGANDA (H-21) British. Pop. 3,681,099. Capital ENTebbe UNION OF SOUTH AFRICA (K-20) Br. Pop. 9,589,898. Capital CAPE TOWN UNION OF SOVIET SOCIALIST REPUBLICS (C-22) Republic. Pop. 170,467,188. Capital MOSCOW UNITED STATES (E-12) Republic. Pop. 131,869,275. Capital WASHINGTON, D. C. URUGUAY (L-15) Republic. Pop. 2,040,358. Capital MONTEVIDEO VENEZUELA (H-14) Republic. Pop. 3,414,160. Capital CARACAS YEMEN (G-21) Imamate. Pop. 3,500,000. Capital SANA'A YUGOSLAVIA (D-20) Kingdom. Pop. 14,850,372. Capital BEOGRAD
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(Continued from front cover)

- 285 West Indies
Cuba, Puerto Rico, Haiti, Dominican Republic,
Jamaica, Virgin, Leeward, Windward, Bahama,
and other islands, etc.
- 287 North America
- 289 South America
- 299 Europe
- 303 Africa
- 305 Asia
- 309 Japan
- 311 Australia
- 315 East Indies and New Zealand
- 317 Philippines
- 319 Hawaii and U. S. Possessions in the Pacific
- 321 Oceania (South West Pacific with Australia
and New Zealand)
- 325 England and Wales
- 329 Scotland
- 331 Ireland (Eire and Northern Ireland)
- 335 Spain and Portugal
- 339 France
- 341 Netherlands, Belgium and Luxembourg
- 345 Sweden and Norway
- 349 Denmark and Finland
- 353 Germany
(before Austria, Czechoslovakia, and Memel)
- 355 Greece and Switzerland
- 359 Italy
- 361 Yugoslavia, Albania, Rumania and Bulgaria
- 367 Poland, Lithuania, Latvia and Estonia
(as of early 1939)
- 371 Russia (U. S. S. R.) in Europe
- 373 Palestine, Syria, Trans-Jordan
- 375 Turkey, and South East Europe with Syria,
Palestine, Iraq
- 379 India
- 383 China
- 384 Germany, Allied Invasion

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- 267 British Columbia
- 273 Mexico
- 275 Central America

Guatemala, Br. Honduras, H.

Nicaragua, Costa Rica and

(Continued on back cover)

THE GEORGE F. CRAM

Since 1867

INDIANAPOLIS 7, INDIANA

RAND McNALLY
STANDARD MAP OF
SOVIET UNION
(RUSSIA AND SIBERIA)

SCALE 1:13,186,000
1 inch = 208 Statute miles

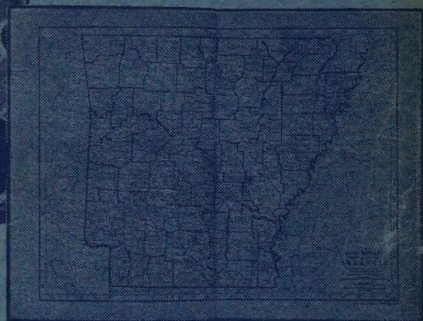
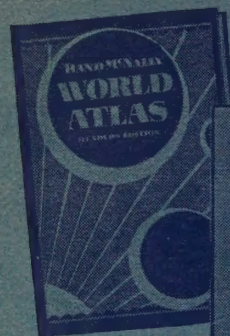
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ARCTIC OCEAN

NORTH POLE
Peary, Apr. 6, 1909



Rand McNally World Atlases and Indexed World Globes



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RAND McNALLY & COMPANY

111 Eighth Avenue
NEW YORK

536 S. Clark Street
CHICAGO

National Press Building
WASHINGTON

559 Mission Street
SAN FRANCISCO

SOVIET UNION

(RUSSIA and SIBERIA)

Pocket Map

Showing

Political Divisions, Cities
and Towns, Railroads,
Waterways, etc.

50c

RAND McNALLY and COMPANY

New York
111 Eighth Ave.

CHICAGO
536 S. Clark St.

San
559

SCHEMATIC SOIL MAP OF THE U.S.S.R.

GENERALIZED FROM "ПОЧВЕННАЯ КАРТА С.С.С.Р."
BY L. I. PRASOLOV



LEGEND

- | | | |
|-------------------------------|---|--|
| Tundra (partly swampy) | Degraded Chernozem | Sierozem (includes light brown and gray soils of arid regions) |
| Podzol (partly swampy) | Chernozem (ordinary, thick, and southern) | Alpine Meadow and Mountain Forest |
| Weakly or slightly podzolized | Chestnut | Sand |
| x Rendzina | ♀ Swamp | ♀ Solonchak (mostly complex) |
| | | ♀ Solonetz (mostly complex) |
| | | ♀ Stony or rocky |

Trip to the Soviet Union, June 10 to July 8, 1945

An invitation was extended to me by the Academy of Sciences of the U.S.S.R. to attend the festivities in connection with the celebration of the 220th Anniversary of the Academy of Sciences of the U.S.S.R., which were held in Moscow and Leningrad between June 15 and June 29. The invitation was forwarded through the Soviet Embassy in Washington and all preliminary arrangements were made with them.

It became necessary to get a passport and visas and make arrangements for the necessary inoculations in a very short time. These were completed June 5 and that evening I left for New York. It was originally planned that we should go by Soviet plane, but since the plane provided would only seat 11, and we were 15, plus 2 other passengers, it was finally arranged by the Office of the President of the United States and the State Department for us to travel by American plane (ATC) from New York to Tehran. These arrangements took some time and the group spent 3 days together at the Harvard Club in New York City making final plans.

Trip to the Soviet Union, June 10 to July 8, 1945

An invitation was extended to me by the Academy of Sciences of the U.S.S.R. to attend the festivities in connection with the celebration of the 25th Anniversary of the Academy of Sciences of the U.S.S.R., which were held in Moscow and Leningrad between June 15 and June 29. The invitation was forwarded through the Soviet Embassy in Washington and all preliminary arrangements were made with them.

It became necessary to get a passport and visas and make

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EMBASSY OF THE
UNION OF SOVIET SOCIALIST REPUBLICS
WASHINGTON, D. C.

May 18, 1945

Professor Ch. E. Kellogg
Experimental Station
U.S. of Agriculture Department
Beltsville, Md.

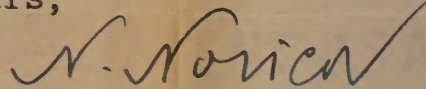
Dear Professor Kellogg:

From June 15 until June 28 in Moscow and Leningrad festivities will be held in celebration of the 220th anniversary of the Academy of Sciences of the U.S.S.R.

The Academy of Sciences of the U.S.S.R. asked me to inform you of the above and is inviting you to participate in the anniversary festivities.

The Academy of Sciences would appreciate it if you inform it at an early date of your acceptance.

Sincerely yours,



N. Novicov
Chargé d'Affaires

P.S. Travel expenses and the expenses of the sojourn in the U.S.S.R. will be paid by the Academy of Sciences of the U.S.S.R.

TELEGRAM

AD 85

U. S. DEPARTMENT OF AGRICULTURE
WASHINGTON, D. C.

TELEGRAM RECEIVED



(7

AG2 128/127

WASHINGTON DC JUNE 4 1945 513P

PROF CH E KELLOGG

WE ARE PLEASED TO INFORM YOU THE FOLLOWING COLON AT REQUEST OF THE
ACADEMY OF SCIENCES OF USSR THE SOVIET GOVERNMENT HAS GIVEN A SPECIAL
PLANE C47845 FOR YOUR TRIP TO MOSCOW VIA SIBERIA TO PARTICIPATE IN
THE CELEBRATION ON OCCASION OF 220TH ANNIVERSARY OF THE ACADEMY
STOP THE PLANE WILL LEAVE SAN FRANCISCO JUNE 5TH NEW YORK JUNE 6TH
STOP YOU MAY FIND OUT THE EXACT DATE AND TIME OF THE PLANE
DEPARTURE THROUGH SOVIET CONSULATE GENERAL 2563 DIVISADERO
STREET SAN FRANCISCO OR SOVIET CONSULATE GENERAL 7 EAST 61 STREET
NEW YORK CITY REGENT 43490 MR MIKHALILOV OR MR FEDOSIMOV
STOP YOU ARE ALLOWED TO TAKE 20-30 POUNDS BAGGAGE STOP ALL NECESSARY
TRIP EXPENSES ON THE TERRITORY OF USA CAN ALSO BE PAID BY SOVIET
CONSULATES

CHARGE D AFFAIRS N NOVIKOV

935A

JUNE 5 1945

C47845 220 5 6 2563 7 61 43490 20-30

Federal Security Agency
UNITED STATES
PUBLIC HEALTH SERVICE DISPENSARY
Washington 25, D. C.

6-4-45

TO WHOM IT MAY CONCERN:

This is to certify that Charles E. Kellogg
was examined at the U. S. Public Health Service Dispensary
on this date and was found to be free from trachoma and
other communicable diseases, and is physically qualified
for overseas duty at this time.

By direction of Medical Officer in Charge.

Respectfully,

R. R. Kistler
a, Surgeon, U.S.P.H.S.



EXTRACT

From the American Embassy in Moscow:

Following are the names of the American scientists visiting Moscow in commemoration of the 220th Anniversary of the founding of the Academy of Sciences:

Dr. James W. Alexander, Institute of Advanced Studies,
Princeton University
Merrill Bernhard, United States Weather Bureau
Detlev Wolfe Bronk, University of Pennsylvania and National
Academy of Sciences
James Edward Church, University of Nevada
Dr. Henry Field, Library of Congress
Dr. Jacob Heiman, American-Soviet Medical Society
Dr. Charles E. Kellogg, United States Department of Agriculture
Izaak M. Kolthoff, University of Minnesota
Dr. Irving Langmuir, General Electric Company
Dr. Duncan A. Macinness, Rockefeller Institute
Dr. James William McBain, Stanford University
Alfred Ludwig Nadai, Westinghouse Electric Company
Arthur Upham Pope, Director Iranian Institute
Dr. Harlow Shapley, Harvard University
Dr. Theodore Karman, University of California. (Came separately
from Paris)

Also Dr. Manual Sandoral Vallarta, Monterrey 100, Mexico, D.F.
accompanied us on the whole trip.

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accompanied us on the whole trip.

Dr. Theodore Karmann, University of California, (Came separately
from Paris)
Dr. Harlow Shapley, Harvard University
Arthur Upham Pope, Director Iranian Institute
Alfred Ludwig Nadai, Westinghouse Electric Company
Dr. James William McHale, Stanford University
Dr. Duncan A. MacInnes, Rockefeller Institute
Dr. Irving Langmuir, General Electric Company
Isaac M. Kolthoff, University of Minnesota
Dr. Charles E. Kellogg, United States Department of Agriculture
Dr. Jacob Heiman, American-Soviet Medical Society
Dr. Henry Field, Library of Congress
James Edward Church, University of Nevada
Academy of Sciences
Detlev Wolfe Brink, University of Pennsylvania and National
Merrill Bernhard, United States Weather Bureau
Princeton University
Dr. James W. Alexander, Institute of Advanced Studies,

Following are the names of the American scientists visiting
Moscow in commemoration of the 250th Anniversary of the
founding of the Academy of Sciences:

From the American Embassy in Moscow:

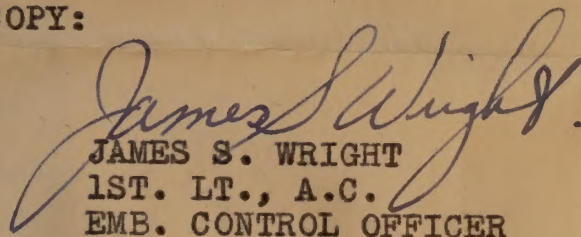
R E S T R I C T E D

EXTRACT

WD TWX GIXA13

CROSSHATCHED PERSONNEL DRS HARLOW SHAPLEY, JAMES W ALEXANDER JACOB HEIMAN, CHARLES E KELLOGG, IRVING LANGMUIR, MACINNES DUNCAN A HENRY FIELD, JAMES W MCBAIN, MESSRS EDWIN S SMITH ARPAD NADAI, ARTHUR V POPE, DETLEV W BRONK, MERRILL BERNARD, KLTTHOFF IZAAK M, JAMES E CHURCH, MANUEL S VALLARTA, ARE HEREBY AUTHORIZED AND INVITED PROCEED ATC ON OR ABOUT ONE ZERO JUNE FOUR FIVE NEW YORK NY TO TEHERAN IRAN AND RETURN UPON COMPLETION MISSION PD APR ONE DASH THREE FIVE SEVEN ONE TWO TWO DASH WDP DASH JUNE PD N ORMAL BAGGAGE PD WD PRESCRIBED IMMUNIZATION WAIVED PD TYL MIL AIRCRAFT DIRECTED NECESSARY MIL SERVICE ACCOMPLISHMENT EMERG WAR MISSION CHARGEABLE FIVE ZERO ONE DASH ONE P FOUR THREE TWO DASH ZERO TWO SEACE TWO ONE TWO DIG FIVE ZERO FOUR TWO FIVE PD

A TRUE EXTRACT COPY:


JAMES S. WRIGHT
1ST. LT., A.C.
EMB. CONTROL OFFICER

R E S T R I C T E D

June 10

We boarded the American plane early in the morning and left LaGuardia Field at 6:25 a.m.

We flew along the New England coast, almost directly over Boston and Bangor, and from thence across New Brunswick, over Prince Edward Island, to the army air base in Newfoundland. We reached the airport at 11:30 a.m., had lunch, and took off for the Azores at 12:30 p.m.

In Newfoundland we flew over great areas of wasteland. The landscape looked like a rocky plain with large numbers of lakes. As we went along, the size and area of the lakes gradually increased until finally the landscape merged into the sea. I saw occasional icebergs at the edge of the sea. There were very few roads through this great tractless wasteland and rarely a village.

We reached the Army's new air field at Santa Maria in the Azores long after dark -- 10 p.m. New York time or 2.a.m. Greenwich mean time.

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We reached the Army's new air field at Santa Maria in the

Azores long after dark -- 10 p.m. New York time or 2 a.m.

Greenwich mean time.

EMERGENCY LANDING PROCEDURE

As a passenger on an Air Transport Command over-land flight, you will want to know about the many items of special equipment which are on the airplane for your use in case of an emergency landing.

Your crew is well drilled on the emergency landing procedure. You will be told what to do. You will obey all orders issued by the crew members.

In order that the plane may be abandoned in an orderly manner, the following commands will be given:

"PREPARE FOR EMERGENCY LANDING," at which time you will:

Loosen your collar, remove glasses and sharp objects from pockets, keep all of your clothes on.

Assist in jettisoning cargo and making ready emergency equipment only at the command of a crew member; otherwise, remain quietly in your seat.

"STAND BY FOR EMERGENCY LANDING," at which time you will:

Fasten your safety belt securely and adjust it to eliminate slack.

Brace yourself for the shock. If you are in a bucket seat, place feet firmly on the floor, clasp your hands firmly behind your head and brace your back against the wall. If you are in a lounge seat, recline it back as far as possible then lean forward placing your head on your arm on the back of the seat in front of you, bracing yourself as much as possible.

Remain in this position until the airplane comes to rest on the ground. Usually, two shocks are felt; the second is the most severe. Casualties may result from passengers not being securely fastened and braced in position.

"ABANDON SHIP." At this command you will:

Unfasten your safety belt.

Assist in carrying emergency equipment from the airplane. This should consist of two large OD canvas bags containing eighteen sleeping bags, the red bobsled, snow shoes, shovel, and emergency radio.

GENERAL NOTES

Passengers with their emergency equipment should move away from aircraft to avoid injury in case of fire; assist in first aid; keep dry and warm; take stock of emergency equipment; set up camp; and make immediate use of signaling devices. Stay close to your airplane; keep the wings clear, it is the largest visible target from the air. Do not venture from your aircraft without the use of your compass.

SIGNALING PROCEDURE

Your position should be determined as nearly as possible.

The Gibson Girl radio should be set up as quickly as possible, and distress signals sent continuously if possible, especially for 3-minute periods at 15 minutes and 45 minutes after each hour.

Sweep the horizon constantly with mirror on sunny days.

Use the flare pistol only when aircraft is within sight.

Your greatest asset is courage. You may be sure that a search is being made for you and that its success depends in part on your cooperation.

I M P O R T A N T

YOU ARE TRAVELLING BY MILITARY AIRCRAFT AND ARE RESPONSIBLE FOR COMPLIANCE WITH THE FOLLOWING REGULATIONS:

SMOKING:

Smoking, lighting matches or lighters, shall not be permitted on any aircraft while on the ground, taxiing, taking-off, or landing, nor while in flight in turbulent air, nor while oxygen equipment is in use, nor while gasoline tanks are installed in cabin, nor at any time when an emergency exists in the aircraft, (gas fumes, engine failure etc.)

SPECIAL NOTICE

() It is unlawful at any time to drop objects from an aircraft in flight. It is a criminal offence to drop cigars, cigarettes or matches from aircraft at any time.

PHOTOGRAPHS & SKETCHES : NO person, military or civilian (except under

express military orders), shall make any sketch, photograph, or type of model, or copy of any military or naval reservation, or Government or military equipment or property. Conviction for this offence brings a punishment of \$1000 fine, or one year's imprisonment, or both.

SAFEGUARDING MILITARY INFORMATION: Information pertaining to the Alaskan

Route, Air Transport Command, particularly in respect to equipment, type of aircraft, plans and movement of aircraft will not be discussed with anyone. Any person traveling by military aircraft is responsible to military law for any information of a military nature and may be tried by a court-martial for disclosure same.

FLIGHT PREPARATIONS

When your flight number is called, please accompany Traffic Clerk to your aircraft. The destination of your flight will not be announced -- the flight number only will be given.

YOUR FLIGHT NUMBER IS * - - - - -

72

NO SMOKING AFTER YOU LEAVE THE PASSENGER TERMINAL

IF P and T # 4 (9 Jan 45)

June 11

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At 8:45 a.m. I was able to see the coast of Africa through the slight haze of a sunny morning. Shortly after, we landed at the airport in Casablanca and were driven from the airport to the hotel for a bath and breakfast.

The soils are distinctly in our Reddish-Brown group with strong lime zones. Certainly they are not Terra Rossa. I judged the lime zone to be about 12 to 18 inches beneath the surface. The presence of manganese was suggested by a slight purplish shade. Apparently the soils near the airport were developed from gravelly marine terraces.

I was told that around Casablanca, and way to the east, there was a bad drought. At least the maize growing without irrigation appeared very poor. Quite a bit of maguey was being grown. At least near Casablanca there was quite a bit of local irrigation from small wells operated by electric pumps. Apparently most, if not all, trees require irrigation. A good many trees and flowering shrubs were being grown in the city, especially in private gardens and parks. These looked nice against the white walls of the houses. Occasional red tile roofs give more color. On the whole, Casablanca seemed a little prettier and cleaner than I had expected, despite the many poor houses and large numbers of shabby Arabs.

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Our plane left Casablanca about 1:40 p.m. (Casablanca time). We flew over a gently undulating plain, sloping to the sea, for many miles. Certainly the landscape looked dry. I saw some old irrigation works along streams in small fields or paddocks. Other irrigation works were irregular and appeared to be very new. From the plane quite a bit of the area appeared to have a pavement, perhaps because of the drought. There were typical African corrals around the houses, or near them. Associated with the houses were square or rectangular gardens with trees and vegetables. The sides of the more deeply cut streams appear to have Sierozem soils.

Out about 25 miles the land became rougher in spots (there were many landing fields and encampments). At about 35 miles we approached a stretch of badlands. The soil appeared to be thin and is covered with low scrubby trees and shrubs; but this formation does not go all the way to the sea.

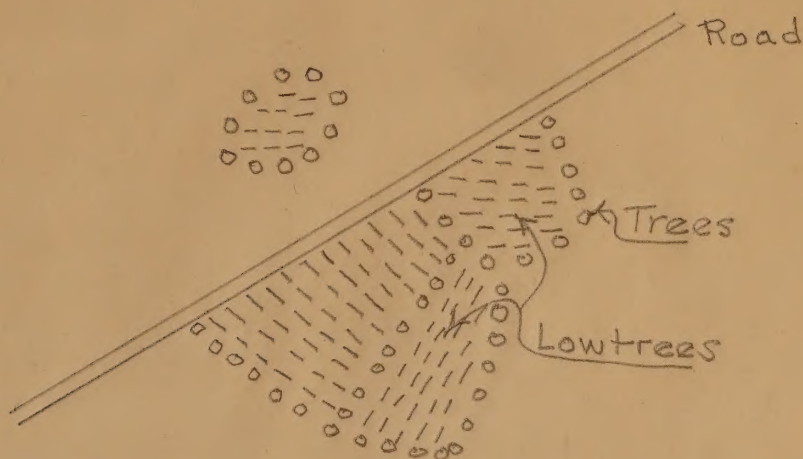
In the dry rolling area further on, there appeared to be normal gullying but accelerated sheet erosion. Some fields are light gray, others are quite red, and still others are dark reddish-brown. This is at least partly a matter of dissection of non-conforming beds of red and gray coastal plain formations. On some of the flat upland plateaus there were poorly drained areas, or playas. Perhaps these include the "tirs" or del Villar. Part of these had ponds with water in them; others were covered with bright green vegetation; and still others appeared to be very smooth and dry. In the badland areas along the streams only rarely has erosion

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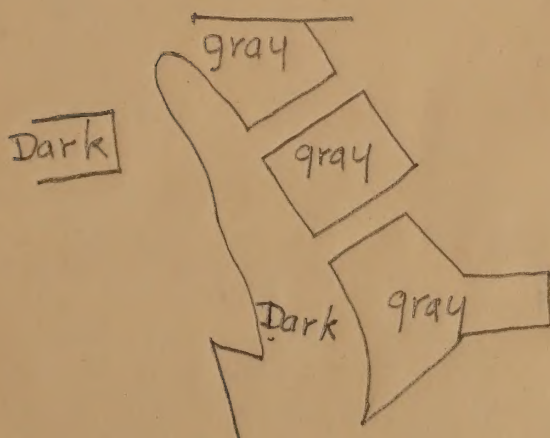
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gone through the soil mantle. From the plane the few cuts through the soil disclosed a formation that resembles the Fort Union of the western Dakotas. As we went east there were a smaller number of playas on the plateaus. Although little evidence of irrigation was to be seen from the plane, there must be some. There are a good many scattered farms.

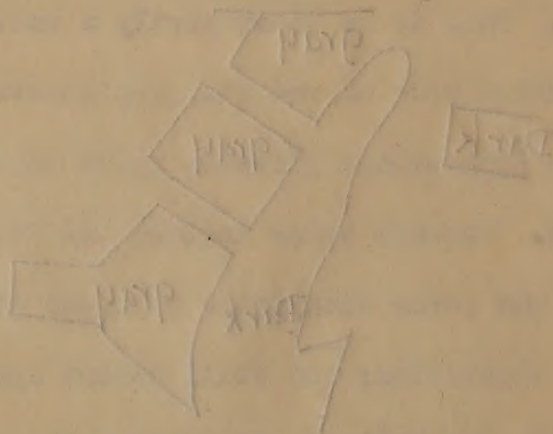


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A great deal of the crop is obviously cereal and cut with a binder. This just before reaching Mekinez; and the same sort of landscape persisted beyond. Some communities seemed to have 90 percent arable land with very little erosion. Although the pattern appears like that of the Palouse country, the land is not so hilly. There are many good roads and, despite the drought, a lot of green along the stream courses.

These descriptions apply especially to the land south of the route of travel. Just to the north are the towns and then the breaks to the coastal plain -- down breaks. On the edge of the breaks there were some new irrigation works.

Ten miles further on, the land was only about 15 percent arable. There was more irrigation and a few playas. The soil was not so dark and there were a good many finger-like, parallel, stringer gullies.

We passed by Fez. A little beyond we came into much poorer country with the gray formations predominating. A wide area here is poor. Probably the soil is too high in both clay and lime.

Beyond this strip of poor country we again came into the Reddish-Brown good cereal land, with a fair proportion of olive (?) trees. These were planted mostly on the contour. Some of the fields appeared to be light brown in color with no red, and now in fallow. The field pattern is an extremely irregular geometric design. At a considerable distance from Fez and long before reaching Taza we came into better country with a good many

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scattered farms; although there were some spots of poor country with both scattered farms and villages. Each house has a courtyard and a corral for stock (probably goats). These descriptions apply to the left of the route toward the sea. On the right-hand side one can see the Little Atlas Mountains in the distance. The land is rough, and here and there are small miserable villages. Some of the streams have well defined arroyos.

Terracing is evident on the arable reddish-colored soils. Apparently these terraces have not been well cared for.

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Near Tiemcen there were nice orchards and vineyards. Many old terraces were plainly in view. The water supply must be fairly good. Red tile roofs make their appearance. About 25 miles beyond, there are large areas of the reddish-brown soil, with fields in rectangular and other angular geometric patterns. The landscape appears to be very dry because of the drought. Sizeable areas of shrub land are mingled in the landscape. Olive (?) trees are scattered in the fields. (At this point we were flying at 11,000 feet. It was cold and very bumpy although hot on the ground.)

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As we went further the land appeared still dry, naturally. A good deal of the brush land looked as if it had been contoured, on account of the peculiar dissection of the tilted rocks. There was even some drift sand and a few "tirs." But still the country does not appear to be so dry as that around Shiprock in the United States.

Along this route several miles west of Biskra we passed over a large gray silty playa with an inlet and outlet but probably salty. To the east there were a good many small dunes. Along the wadi courses the land appears very beautiful. Here in the near-desert, perhaps 450 miles west of Tripoli, was a beautiful example of a bold eroded strike that would make a nice photograph.

Just a little west of Biskra one of the motors went bad. Apparently the pump was discharging too much gasoline and this was spilling out of the motor into the air. This happened over country that looks a great deal like the Dakota badlands. The rocks are light brown and seemingly soft. There were some dry stream courses. The vegetation is very scanty. (The pilot decided to land at Biskra on account of the motor.) Just before coming to Biskra there was a large sand wadi. The land is very near true desert with some salty spots. There is a good deal of abandoned irrigation and several small irrigated homesteads.

We came down at Biskra around 5 p.m. Here there are a good many irrigated date gardens along with some vegetables and cereals.

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The soil is developed from alluvium and has been so disturbed that I couldn't find a natural section. The material is principally a silt loam containing a good deal of fine sand. It comes very close to being an alluvial Solonchak, and can be used only with great care after irrigation and drainage because of the salts.

In Biskra we saw the Garden of Allah and the place near the little hotel where the film was made. (The British officers had tea served to us in the hotel.) The town is in a little oasis on the western edge of the great desert. Most of the inhabitants are Arabs, but there are a few French, including French women. Many of the Arabs of Biskra are as dirty as previously described to me. In addition to the French, there are also a few Sengalese troops.

The airfield is not used a great deal now except for emergencies. There were 300 British and a few American soldiers commanded by British squadron leader Wallace. He was a delightful man, educated at Eaton and Oxford. He has a farm in Kenya and intends to go back there after the war. He had known Milne.

Primarily the town has date gardens, but there are some other food crops, including sesame (?). There was a nice scattering of flowering shrubs. I was told that people go to Biskra for arthritis. The climate should be good for that, but the chances of getting something worse seemed to be good.

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The gasoline line was repaired and we got back in the plane at 7:15 p.m. (Casablanca time). To the east and south lies the great desert. There were large sand dunes and dry creeks, generally flowing south into salt flats. A few miles out of Biskra we crossed a large salt and mud flat. At 8:15 it became too dark to see the landscape -- about 300 miles west of Tripoli.

At 10:50 p.m. (Tripoli time) we landed in Tripoli for dinner and left within an hour for Cairo. It seemed a great pity to fly over this area in darkness.

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The earth appears yellowish and looks smoother and harder than I expected. The surface is mottled irregularly, on a large scale, with gray. There is little relief.

As we move on there is a shallow covering of drifting sand. I have seen nothing like it before. I can detect no sign of animals or plants. About 70 miles east of El Alamein there are some low ridges -- cuesta-like. Most of the relief seems to be undulating. The tops of the ridges resemble caliche remnants, at least in part. If these observations are correct they support the general view that the soil at one time was like that of the grasslands rather than true Desert, and now desert conditions prevail as the whole area becomes drier with the Sahara approaching a size like it had before glacial times. As we go on there is more sand.

About 90 miles from El Alamein there are brackish ponds and salt flats. Some of these are white, some nearly red, and others variegated. Probably these ponds and flats are part of the great Qattara Depression. (A plan exists for filling this Depression with water from the Mediterranean, thus developing water power and improving the climate of Cairo.) Just south of the Depression there are

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a few houses.

In a few miles we came to the end of the Depression and found ourselves flying along a wide military highway. In another 20 miles we came to a large military outpost. There was somewhat more sand and a rougher surface, but here again the soil appeared once to have had a lime zone. But it would be difficult to distinguish caliche from the soft gray rock, apparently sandstone, from the plane.

Then came the Pyramids and the sphinx, with roads, houses, and irrigation. The contrast upon entering the Nile delta is complete. The land is all laid out in geometric design with small fields and orchards. The fields are dotted with round yellow threshing floors. (Later I visited one of these in the country. A little machine that looks something like a short disk harrow is pulled by a pair of oxen over the wheat. After it has been cut up and threshed the grain is separated in the wind. I made a few trips around on a machine myself. The wheat is a soft wheat that did not appear to be of the best quality.)

There were a great many compact towns and villages within intensive arable areas and only a few scattered farms.

We flew directly over Cairo and landed in Payne field at 5:30 a.m. We went to the military barracks for breakfast. I then completed my inoculations at the military hospital. From there we were driven to the famous Shepherd Hotel in Cairo. Like the others, I went to see the Pyramids and the Sphinx, but was not impressed. Later I saw the jewels of the Tut-ankh-amun in the museum. They were very

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I visited the American Legation and spoke briefly with the Minister, who did not even know where the Agricultural Attache' or his assistant were, and seemed not to care. Afterwards I found Mr. Elwood, the Assistant Agricultural Attache', and arranged with him to meet Hussein Enan Bey, Under Secretary of State for Agriculture in Egypt, for a conference at 7 p.m. about the loan of a soil scientist to Egypt. Elwood made a good impression on me. I then went back to the hotel for lunch and a siesta, both of which were pleasant and necessary.

At 5 p.m. I visited the famous Mosque in Cairo. This is an enormous place. Of course, there are no chairs or benches. Many boys and young men lie on the carpets and read and memorize the Koran, learn history, and pursue other studies. The better scholars are selected for further study, including an opportunity at the American Mission School where they learn more English. But the boys in the Mosque like to try out their English on visitors. These boys and most of the Arabs one meets are very dirty. They have lots of skin diseases and sore eyes.

After the Mosque we went down into the Bazaar. Like a typical tourist, I bought some perfume. The streets are dirty and there are many flies. One needs to be very careful in Cairo not to drink water, eat any fresh fruits or vegetables, or allow these diseased Arabs to come into bodily contact. Because of the persistence and enthusiasm of the salesmen, beggars, and guides, this last is difficult.

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There are many beggars. Something about Cairo suggests a little of New Orleans, San Juan, and Naples to me. The Sheppards Hotel is a great babble of English, Arabic, French, and everything else. Rooms and meals are very costly, and so is almost everything else in Cairo. This great market place and crossroads of the Near East did not impress me as a pleasant place. The mixture of French, English, and Arabic is an emulsion, not a solution.

I had a conference with Hussein Enan Bey and was extremely well impressed with him. He seemed to be an able and well informed man. He and Elwood intend to develop a plan for initiating soil studies in the Nile valley and forward it to the U. S. Department of Agriculture for concurrence and assistance.

Following this conference with Hussein Enan Bey I attended a banquet given by the scientists of Cairo for our group at the Automobile Club at Cairo. Everybody exchanged greetings and congratulations, and the affair was very pleasant. (Later, several members of our party regretted drinking the water and eating the fresh fruit served at the banquet. Dysentery!)

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CAIRO-MAP
PUBLISHED BY
groppi
(Swiss Firm)

If You wish to spend a merry evening in pleasant surroundings.
If you like the best dance music and love dancing
If you are looking for the choicest food in Cairo

YOU MUST ATTEND

The "DANCING EVENINGS" at Groppi's Rotunda (Soliman Pasha Premises) which is one of the finest BALL ROOMS in the Near East.

when you spend your leave in Cairo



See Map No. 7

Let Mac's and Duff's be always by you!

Please consult our "SHOPPING GUIDE" on the back of this Map

CIGARETTES
OLD NAVY
BEST AMERICAN BLEND

PAPASTRATOS See Map No. 3
FINEST CIGARETTES
GREEK TOBACCO

HIGH CLASS EGYPTIAN CIGARETTES
GIANACLIS

Egyptian Money & Equivalents
Based (at parity)

SILVER

20 PIASTRES = 4 s. 1. $\frac{1}{4}$ d.
10 PIASTRES = 2 s. 0. $\frac{1}{2}$ d.
5 PIASTRES = 1 s. 0. $\frac{1}{4}$ d.
2 PIASTRES = 5. d.

NICKEL

10 MILLIEMES = 1 Piastre
5 MILLIEMES = $\frac{1}{2}$ »

NOTES

100 PIASTRES = 1 Pound Egyptian
50 PIASTRES = $\frac{1}{2}$ Pound Egyptian
POUND STERLING = P.T. 97. $\frac{1}{2}$

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Attention!
GIFT BUYERS!
GIFTS

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Furnishing Fabric — Household Linens — Men's Outfitting
C. H. 71

PURSLOW
Davies Bryan Bldgs.
CAIRO
Emad El Din St.
See Map No. 17

GENERAL STORES

— FLOWERS TELEGRAPHED —
TO ALL PARTS OF THE WORLD
C. H. 4491

CHEZ MA BOUQUETIERE
THE MOST BEAUTIFUL FLOWERS AT
19, Kasr El Nil St. Cairo - Phone 57138
See Map No. 16

FLORISTS

BOOTS & SHOES

BY APPOINTMENT to H. M. King Farouk
CORDONNERIE CECIL
CAIRO
26, Sherif Pasha St. (Ex Madabegh St.)
Phone 49676
See Map No. 12
ALEXANDRIA
24, Port Est St. — Phone 22425
& 14, Bd. Saad Zaghloul
(Cordonnerie Le Phare)
BOOTS & SHOES OF FIRST CLASS
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STATUE OF TUT-ANKH-AMUN

A GUIDE TO THE TREASURES OF TUT-ANKH-AMUN

By
J. LEIBOVITCH

P.T. 10





TUT-ANKH-AMUN'S GOLD MASK (SIDE VIEW). P. 18, No. 220

THE LIFE OF TUT-ANKH-AMUN

A GUIDE TO THE TREASURES OF TUT-ANKH-AMUN

by

J. LEIBOVITCH

Published by Société Orientale de Publicité

Cairo 1945

THE LIFE OF TUT-ANKH-AMUN

(Reign 1356 - 1347 B.C. approx.)

While spiritists have been trying to establish contacts with the ghost of the bygone king by means of the famous "curse of the Pharaoh," human love and interest for tales of hidden treasures have never been more thrillingly excited when in November 1922 Howard Carter, who was then working for Lord Carnarvon, announced the sensational discovery of the tomb of Tut-Ankh-Amûn. Until then this royal name was unknown to the general public but now it is more familiar than that of Thotmes III or Rameses II. Why should such a tremendous and marvellous wealth of funerary furniture be heaped up in such a hasty and careless manner for a man who had come to the throne as a youngster and died some nine years later and was succeeded by Ayi and then by Haremhab who jealously erased the name of Tut-Ankh-Amûn wherever it was found and replaced it by his own? Some striking event must have happened during his life, an event which may have been the result of the activity of the statesmen who surrounded or supported him while he was alive, because he himself was a most undistinguished and ephemeral monarch. Although he did nothing during his short reign that was worthy of record, Tut-Ankh-Amûn is represented on the walls of the tomb of the famous vizir Huy at Thebes, a Viceroy of Ethiopia, as receiving the tribute of foreigners, Asiatics and Nubians. These facts are not, however, so remarkable as to justify the presence in his tomb of unparalleled treasures of outstanding merit marked by their fine workmanship and great variety. To explain these facts we have to go back to the reign of Amenophis IV who adopted the name of Akhenaten at el-Amarna and who was the father-in-law of Tut-Ankh-Amûn. He is known to have broken off with the ancient traditional cult of Amûn as a result of the increasing conflict between the Theban and the Heliopolitan priesthoods. This conflict started at the time of Thothmes IV, but Akhenaten's wife, queen Nofretete greatly contributed to the triumph of Atenism, the cult of the solar disk that extends its vivifying rays to mankind. Akhenaten spent the remainder of his life at Tell el-Amarna but seems towards the end to have attempted a reconciliation with the old religion. This provoked a quarrel with Nofretete who was banished to a palace at the north of the city together with the king's youthful half-brother Tut-Ankh-Aten (pleasant is the life of Aten). Akhenaten appoint-

ed as co-regent *Smenkh-ka-Rê*, another half-brother, who was married to his second daughter *Merit-Aten*, and consoled himself by marrying his own daughter *Ankh-es-en-pa-Aten*. *Akhenaten* and *Smenkh-ka-Rê* died almost simultaneously and the youthful *Tut-Ankh-Aten*, he was only nine years old, came to the throne and clinched his claim by marrying *Ankh-es-en-pa-Aten*. *Tut-Ankh-Aten* reigned at *el-Amarna* for three or four years and then returned to *Thebes* and the old religion. Some traces of *Atenism* under his reign are still to be seen on his furniture proving thus that this furniture is not all of a funerary nature. A stela of red sandstone found at *Karnak* by G. Legrain in July 1905, and now in the *Cairo Museum* (north-western corner, to the left of the staircase) records the desolation prevailing in the country "when His Majesty arose as king"; he is now called *Tut-Ankh-Amûn* (pleasant is the life of *Amûn*) and he is said to have fashioned images of *Amûn* and *Ptah* of fine gold, lapis-lazuli, turquoise and every rare costly stone. This is probably why the chambers of his hidden tomb at *Thebes* were filled with such valuable treasures which will remain for ever the pride of *Egypt*.

A CATALOGUE OF THE COLLECTION OF TUT-ANKH-AMUN

* means "no number" or "group of objects"

HALL No. 45. — *South-west Corner :*

448. (Show-case 55). Ostrich-feather fan of ivory bearing the name of Tut-ankh-amûn.

Centre :

181. Life-sized statue of Tut-ankh-amûn in a walking attitude (same as No. 96 opposite). Wood, partly gilded and partly painted with black varnish. These two statues were standing in the antechamber of the tomb, near entrance to sepulchral chamber.

540 to 542, 566. (Show-case 49). Gaming-boards of ivory and ebony; also inlaid ivory strips and knuckle bones for making the throws.

442, 443, 470. (Show-case 56). Miniature coffins. No. 443 contained a lock of hair of queen Tiy (see 444), and a small statuette of her husband Amenophis III (No. 445, Show-case 35 see p. 19, Room No. 4). The smaller coffins were contained in the largest one (470). Wood.

East Wall :

1035, 1326. (Show-case N). Two models of boats, the latter with sail-yard lowered. Wood.

919, 1037. (—). Two funerary strainers, perhaps for beer. Plaster with copper centres.

552, 574, 578, 1008. (Show-case N). Alabaster vessels, some with stoppers. No. 552 bears the name of Tut-ankh-amûn and 574 that of Thothmes III.

West Centre :

1189. (Show-case 96). Casket decorated with sporting and offering scenes. The king is seen shooting fishes with his bow in a pool situated in the royal garden; the queen is sitting before him. For cover see Show-case 96 A, West Wall. Wood inlaid with carved ivory.

738, 739. (Show-case 60). Two boxes bearing decorative hieroglyphs meaning "life", "good fortune", and so on. Wood.

744. (Show-case 60.) Tall narrow shrine, mounted on a sledge. Wood.

1036, 1342. (Show-case 60). Two boxes. Wood.

899. (Show-case 60). Box containing an inscription stating that the object belonged to "his majesty when he was a child". Wood, with inlaid ivory.

West Wall :

537, 538. (Show-case 64). Two scimitars. Their shape is of Syrian origin. Bronze.

753. (Show-case 64). Ceremonial shield representing the king as a sphinx crushing Nubian prisoners. Wood and gilt.

754. (Show-case 64). Similar to No. 753, but showing the king slaying a lion. This attitude is rather Asiatic than Egyptian.

1189. (Show-case 96 A). Cover of the casket (1189) contained in Show-case 96, West Centre. King and queen in their garden.

917, 918. (Show-case M.). Two boxes for clothes. Painted wood.

900. (—). Stand or table. Wood.

956 to 964. (—). Small coffins which contained mummies of two prematurely born children. Wood.

1639. (Show-case M). Box with panels painted red. Wood.

HALL No. 40. — *East Centre :*

460. (Show-case 53). Model of boat. Painted wood.

21. (— 23). Chest for the king's linen. Wood decorated with ebony strips.

5. (Show-case 24). Chest. Wood, decorated with gilded knobs, and ebony and ivory inlays.

East Wall :

1069. (Show-case 87). Shield with skin cover.

560. (— 98). Apparatus for making fire. The wooden drill, was rotated rapidly by means of a bow in one of the holes of the piece of wood seen nearby.

669, etc. (Show-case 98). Labels originally attached to receptacles, whose contents they mention. Wood.

645. (Show-case 98). Bread cakes.

1195 to 1210. Implements, each consisting of a large wooden handle with a tiny blade of very thin metallic iron in one end. Some regard the implements as "model tools" while others regard them as objects used in connection with the ceremony of "opening the mouth" of the deceased.

West Centre :

447. (Show-case 54). Carrying-chest in the form of the jackal-god Anubis on a shrine. Used in processions. Wood.
396. (Show-case 48). Box in the form of a royal cartouche, the hieroglyphs in which form the king's name and titles ("Tut - ankh - amûn, ruler of Heliopolis - of - the - South [=Hermonthis]"). The box is of red wood and ebony and the hieroglyphs of ebony and coloured ivory.
397. (Show-case 48). Chest decorated with ivory and ebony. Red wood.

HALL No. 35. — East Centre :

- 427 to 434. (Show-case 47). Figures of various deities, all of gilded wood. The serpent-god Neter-ankh (427); the goddess Sekhmet (428); the god Horus-khenty-sekhem, "Horus-in-front-of-Letopolis" (429); the goddess Sened (430); and the gods Tata (431), Ptah (432), Tanen (433), and Horus-the-Great (434). Ptah wears a bright blue cap.
395. (Show-case 45). Head of a cow. Wood, gilded and varnished black in places. Horns are of copper.
- 407 to 411. (Show-case 43). Group of statues representing the king in various poses, such as harpooning, etc. Gilded wood.

East Wall :

1070. (Show-case 86). The king's ceremonial shield. Wood.
- 834 to 884, 1266, 1638. (Show-case 73). Various kinds of arrows (wood) and arrow-heads (bronze, glass, ivory, wood) of the king. Some are blunt (861 to 863), No. 1266 is spearheaded, while No. 1638 is a short reed arrow with bronze head.
756. (Show-case 65). Seat of a chair painted with figures of Asiatic and Nubian prisoners. Canvas over papyrus.
1066. (Show-case 95). Another ceremonial shield. Cf. No. 1070, above.
- 662 to 668, 2652 to 2654. (Show-case 67). Sticks and parts of sticks. Wood.
- * (— 27). More wooden sticks; handles and tips are of gold. Also pointed pegs of horn (117, 118).
926. (Show-case 27 bis). Quiver with floral design; contains arrows. Partly tapestry-woven.

441. (Show-case 27 *bis*). Bow-case bearing hunting scenes. Wood decorated with bark and gold leaf; faience ends.

West Centre :

- 993 to 995. (Show-case 52). Figures of the king similar to Nos. 410, 407 and 411 in Show-case 43 in East Centre. Gilded wood.

- 420 to 426, 996. (Show-case 46). Figures of various deities, all of gilded wood. The god Geb (420); the goddess Nephthys (421); the god Atum (422); the god Ahi, son of Hathor of Dendera (423, 996); the god Mamu, hitherto unknown (424); the goddess Isis (425), and the god Khepera (426).

- 412 to 419. (Show-case 44). Figures of various gods, all of gilded wood. Qebehsenuf (412); Amseti, wrongly called Duamutef in the accompanying hieroglyphs (413); Duamutef (414); Amseti (415); Amseti, wrongly called Hepy (416); Anher-shu (417); Sepdu (418); and Gemehsu (419). Nos. 418 and 419 are each represented by a mummified falcon on a perch. Qebehsenuf, Amseti, Duamutef and Hepy looked after the viscera removed during the embalmment of the body.

East and West Centres :

- 168 to 171. (Show-cases 28, 28 *bis*). Four emblems resembling the *res*-hieroglyph, meaning "to be awake" (in the sense of life after death). A set of four (named *pedj-aha*, *nu-n-neter*, *ary-neter*, and *djeba-neter*) is shown on Middle Kingdom coffins.

West Wall :

- * (Show-case L). Various kinds of *ushebti*-figures of the king. Faience and gilded wood.

- 1245 to 1247. (Show-cases 106, 107, 113). Model hoes and baskets for the use of the *ushebti*-figures. Copper, wood and faience.

HALL No. 30. — East Centre :

15. (Show-case 51). Stool with seat representing a leopard's skin. Ebony, with ivory inlay and gold fittings.

- 901, 1010 to 1012. (Show-case 51). Footstools. Some of them have horizontal wooden strips which are conventional representations of the bows typifying the foreigners conquered by the king. Wood.

- 909, 1039. (Show-case 51). Folding stools. Seats (of leather) perished. Wood and ivory.
922. (Show-case 82). Model granary; inside is the original grain. Wood.
1641. (Show-case 82). Box with the king's name on lid. Wood.

East Wall :

- * (Show-case 108). Staves and magical sceptres. Gilded wood.
- * (— 75). Several bows of wood, some in gilded filigree. No. 520 is a double bow, while 1599 and 1600 are composite examples covered with bark. No. 930 is a miniature composite bow, perhaps a toy.
- * (Show-case 109). Various kinds of bows. Wood.

West Centre :

- 916, 1047 to 1049. (Show-case 81). Four boxes for clothes. Wood.
18, 19, 332, 333. (— 26). Serpent-deities on standards with their shrines. They are called Qebhut (?) - hery-sesheta. Gilded wood.
1301, 1579. (Show-case 80). Footstool. Wood (1301). Chair. Ebony, covered with papyrus; seat made of cord with papyrus border (1579).

HALL No. 25. — *East Centre :*

- 1, 2. (Show-case 21). The king's throne (1) and footstool (2). On the front of the seat-back the king is shown as seated and the queen as standing and touching his shoulder. The solar disk, a survival of Akhenaten, the king's father-in-law, is spreading rays of life over the royal couple. On both sides of the seat are uræus-serpents wearing the double crown of Upper and Lower Egypt and with wings which protect the king's names (*Neb-kheperu-ra* and *Tut-ankh-aten*, which later became *Tut-ankh-amûn*). Behind the throne are shown lotus flowers and ducks; also uræi with solar disks protecting the names of the royal couple. Carved wood decorated with faience, gold, silver and semi-precious stones. The footstool, also of wood, but covered with gilded gesso and blue glass, has foreign captives represented on it.
22 to 24, 549. (Show-case 19). Child's chair and stool with

footstool. Ebony and ivory (22 to 24). Three-legged stool, with decorated seat. Wood, painted white (549). 506. (Show-case 18). Pedestal of a statuette of gold (latter not found in tomb). Gilded wood. (Placed inside No. 14, see below).

14. (Show-case 18). Shrine on a sledge, with two-leaved door and ebony bolts. Decorated. Wood covered with sheet gold.

* (Show-case 17). Walking-sticks. Various materials decorated with gold. No. 195 has a handle bearing a miniature figure of the king in solid gold, 10 cms. high; the stick itself is of metal covered with gold.

East Wall :

515, 1674. (Show-case 112). Part of a corselet. Gold, faience, and semi-precious stones (515). Fragments of a cuirass. Leather and linen (1674).

1622 to 1629. (Show-case 84). Walking-sticks with decorations in bark etc. Wood.

* (Show-case H). Pottery vessels, some painted; and alabaster jars. Certain of them contained perfume, loaves, fruit, honey and nuts.

West Centre :

3, 4. (Show-case 22). Carved chair (3) and footstool (4). On the back of the chair, in open-work, is the symbol of "millions of years" over the emblem of "gold". Wood.

982, 983. (Show-case 25). Chair (983) and footstool (982). Exquisite workmanship. Wood, etc.

324. (Show-case 20). Chest decorated with paintings. On the two long sides and the cover are scenes of wars against the Asiatics and Nubians, as well as hunting scenes showing lions, gazelles, deer and ostriches. On the two ends is seen the king, in the form of a sphinx, trampling on captives. Nearby are the royal cartouches. In the chest were clothes and sandals. Wood.

11, 12, 182, 183. (Show-case 16). Alabaster cup in the shape of an open lotus flower and bearing an inscription, painted in black, wishing the king prosperity and long life (11). Alabaster box (12). Triple lamp, of alabaster, in the form of a lotus flower and buds (182). Perfume-vase with lid in the form of a *couchant* lion, Alabaster (183).

West Wall :

- * (Show-case I), *Ushebti*-figures. Various materials.
- * (— 110, 111). Different kinds of throwing sticks (boomerangs) which were used for hunting duck and other fowl. Various materials. Some have faience parts. In the small wall show-case to the right are two modern Australian boomerangs.

HALL No. 20. — East Centre :

735, 125, 186 to 188. (Show-case 15). Fan-stock, feathers missing. Wood, covered with gold (735). Military trumpets. Silver and bronze, ornamented with gold (125, 186). Flabella or ceremonial fans originally bearing ostrich-feathers. Wood and gold (187, 188).

* (Show-case 13). Walking sticks with curved ends formed out of representations of prisoners, Asiatic and Nubian. Carved wood, painted and stained ivory.

751, 1341. (Show-case 11). Boxes. No. 751 has a support for a wig inside it, while 1341 has a double lid. Wood.

East Wall :

939. (Show-case 83). Large vase. Alabaster.

* (— G). Boxes, chairs, stools and shrines of wood; and vases of alabaster.

89. (Show-case 85). Casket. On the back is a small lotus-shaped pilaster. Ivory.

West Centre :

184. (Show-case 7.) Translucent alabaster chalice on stand; used as a lamp. The chalice is double, the outer surface of the inner chalice being painted with a scene showing the queen presenting palm-branches (symbols of myriads of years) to her royal husband.

185. (Show-case 14). Vase on stand with statues representing the plant-crowned Nile gods of Upper and Lower Egypt holding plants symbolic of their regions (the lily for the South and the papyrus for the North); the symbols are joined by the sign for "union"—*sma*, actually the picture of the lung and windpipe. Behind are two columns supporting crowned *uræi*. Alabaster.

6 to 9. (Show-case 14). Four vases for perfumed ointments. Alabaster.

13, 752. (Show-case 12). Box of wood, with panels of blue

faience and knobs of violet faience (13). Chest, perhaps a play-box. Wood (752).

West Wall :

(Show-case 101). Writing implements consisting of slate and alabaster palettes, writing boards, writing reeds, and so on. No. 577 is a nice model turquoise-blue glass palette, with pens of the same material.

HALL No. 15. — East Centre :

95. (Show-case 4). Bed of wood, with string mesh. All painted white.

1065. (Show-case 89). Bed, Gilded wood, with string mesh.

543 to 548, 748. (Show-case 61). Vase with cover, mounted on a stand and bearing the names of the king and queen (543). Figure in the form of a lion, representing the god Bes, protector of sleep, etc.; below is a base (544). Base of a vase, in the form of an ibex; the horns (one missing) are natural (545). Two vases inlaid with faience and stone (546, 547). Vase with side ornaments representing the sign of life on a papyrus column (548). Group representing the Nile-god holding a vase (748). All of alabaster.

East Wall :

449, 454. (Show-case E.) Black-varnished box (454) which contained a model of the mummy of the king lying on a bier 449). The king is being visited on one side by Horus (a falcon) and on the other side by his soul (a human headed falcon). Wood. Presented to the king by Meya, a scribe and treasury official.

217, 218. (Show-case E.) Two maces. Gilded wood.

1313 to 1318. (Show-case E.) Boxes covered with white plaster and containing food offerings. Wood.

487 to 497. (Show-case E.) Model paddles. Black-varnished wood.

31, 32. (Show-case E.) Two sistra (sacred rattles). Gilded wood and bronze.

573. (Show-case E.) Model sickle. Gilded wood. The flint cutting edge is represented by segments of coloured glass.

172. (Show-case E.) Model of libation vase between the two towers of a pylon. Black-varnished wood.

194. (Show-case E.) Model of sacred goose of the god Amûn. Black-varnished wood.

193. (Show-case E). Two small shrines on a stand. Black-varnished wood. Inside the shrines are two sets of faience vases, one set containing resin and the other soda. Between the shrines is a model of the *pesesh-kef* implement used in the ceremony of "Opening the Mouth" of the deceased.
1178. (Showcase 97). Folding "camp-bed". Wood, with string mesh. Note the bronze hinges, quite modern in appearance.
- 450, 461, 471, 480. (Show-case *). Four model boats. Painted wood. No. 471 represents a papyrus canoe.

West Centre :

20. (Show-case 2). Bed. The panel at the feet end is decorated by three Bes figures, each flanked by two lions. Ebony, with string mesh painted white.
530. (Show-case 38. Bed. Wood, covered with thick sheet-gold. Mesh is of string.
627. (Show-case 59). Vase in two pieces, the outer part fitting closely over the inner. Alabaster.
531. (Show-case 59). Head-rest. Turquoise—blue glass.
532. (—). — Dark blue faience, with decoration in gold.
533. (—). — Represents the god Shu supporting the heaven and flanked by two lions. Ivory.
534. (Show-case 59). Head-rest. Folding-type bearing Bes-heads. Stained ivory.
535. (—). Model of boat, with pedestal in the form of a lotus tank. The cabin is in the shape of a shrine guarded by a dwarf. Alabaster.

West Wall :

- 435, 436. (Show-case F). Two "Symbols of Anubis" (in later times the symbol was called *Imy-ut*). Each consists of the model of a water-skin or decapitated animal attached to a staff in the shape of a papyrus stalk with bud, the base of the staff being sunk in an alabaster vase. Gilded wood. No. 436 is dedicated to "Anubis-in-the-Place-of-Embalmmnt" and 435 to "Anubis-in-front-of-the-Divine-Hall [of-Embalmmnt]". The oldest example of this emblem was found at el-Lisht, in 1914, and dates from the Middle Kingdom. This consists of a cedar rod inserted in a alabaster ointment-vase; to the rod was attached a "dummy" animal (made of wadded linen cloth

covered with skin having fine, short hair), with the head cut off, and the neck and fore legs hanging down.

510, 511. (Show-case F). Small round basket with lid.

173, 512, 703 to 706, 728 to 731, 1635 to 1637. (Show-case F). Baskets, some with lids. No. 730 is bottle-shaped, while 173 and 512 are divided into compartments.

1337. (Show-case F). Box. Ebony, with ivory veneer.

453. (—). Box bearing the name of the king. Wood, inlaid with ivory and ebony.

174. (Show-case F). Basket with *dôm* (palm-tree) fruit.

481 to 486. (Show-case D). Six models of boats. Painted wood.

HALL No. 10. — East Wall :

1658 to 1660. (Show-case 102). Three bouquets of persea branches which leant up against the wall near the two wooden statues of the king (Nos. 96, 181, in Hall No. 45). No. 1660 [=62724] also contains olive leaves.

507 to 509, 1348. (Show-case 102). Smaller bouquets of persea branches.

1580, 1661. (Show-case 103). Boxes containing botanical specimens (barley, melon seeds, persea-tree fruit, coriander seeds, onions, dates, dried grapes, juniper berries, etc.) from various baskets (1580); also bundles of reeds (*Juncus maritimus*) which were used for making pens (1661).

Centre :

521. (Show-case 69). Couch, supported on each side by a representation of the cow-goddess Hathor. Wood, covered with gilt gesso.

221. (Show-case 3). Couch, supported on each side by a fantastic animal having a hippopotamus-like head. Wood, covered with gilt gesso.

North Wall :

1064. (Show-case 93). The so-called "Bed of Osiris". This is a hollowed-out piece of wood in the shape of Osiris containing sprouting barley. It was regarded as the symbol of the resurrection.

HALL No. 9. — Centre :

732. (Show-case 70). Couch supported on each side by a lion. Wood, covered with gilt gesso. The lions' heads are inlaid with blue faience.

North Centre :

947 to 949. (Show-case 58). Parts of bead collars. Faience.

South Centre :

1085, 761, 950, 951. (Show-case 72). Inscribed rings (1085) and neklaces of disk beads (761, etc.); also bead collars with spacer-beads (950, 951). Faience.

Centre:

1581. (Show-case 8). Pavilion (perhaps a veiled shrine) in which was placed a statue of the king or of a god, or even in which the king himself stood. Gilded wood.

1582. (Show-case 8). Pedestal for a statue. Gilded wood, inlaid with bluish-green glass.

985, 455 to 458. (Show-case 90). Canopic shrine on sledge (985). The four protecting goddesses are Isis (455), Nephthys (456), Neith (457), and Selqet, the scorpion-goddess (458). The frieze is of uræi bearing solar disks. Wood. This shrine contained the alabaster Canopic chest (984) seen in Hall No. 8, Centre Show-case 92.

437 to 440. (Show-case 57). Four alabaster lids from the above mentioned Canopic chest (984). Each represents the head of the king with a uræus (=the goddess Wadjet or Buto) and the head of a vulture (=the goddess Nekhebet) on his brow. Alabaster.

North Wall:

904, 910, 911. (Show-case 74). Sandals. Leather (904) and papyrus (910, 911).

192. (Show-case A). The *djed*-pillar of stability; an Osirian symbol. Painted wood.

54 to 59. (Show-case A). Cubit rods, each one cubit = 0 m. 52, in length. Wood.

10, 35 to 39, 326. (Show-case A). Vases of different shapes. Alabaster.

64. (Show-case A). Small squatting statuette of the king as a child. Dark blue glass.

74. (Show-case A). Small squatting statuette of the king as a child. Crystalline limestone.

80. (Show-case A). Small squatting statuette of the king as a child. Grey stone.

146, etc. (Show-case A). Model tools. Wood and bronze.

391, 392. (Show-case A). Two models of birds. Beeswax.

1300. (Show-case A). Ornament perhaps an ostrich in a nest seated amidst four large eggs. Alabaster.

- 337 to 340, 569, 1648, 1649. (Show-case 68). Gloves and gauntlets. Linen and tapestry-woven.
745. (Show-case 68). Thumb-(or, finger-) stall. Perhaps used for archery. Linen.
1647. (Show-case 77). Part of garment embroidered and decorated with disks of gold. Linen.
1662. (Show-case 77). Scarf. Linen.
932. (—). Tapestry-woven band bearing tassels, 1041 to 1046, 1227 to 1231. (Show-case 91). Specimens of woven fabrics and fragments of garments. Some bear the name of king Akhenaten and also the date of weaving (1227 to 1231). Note the bed-socks, with the strings for tying them to the legs (1042, 1043).

South Wall:

- 944 to 946. (Show-case 78). Bead collars with end-pieces. Faience.
- 200, 398 to 400. (Show-case B). Libation vases (200, etc.) and other examples. Dark blue faience. Three stands supporting saucers, two of which, with covers, contain natron. Alabaster (398 to 400).
642. (Show-case 62). Garment with fine needlework in the collar and edges. Linen.
1666. (Show-case 10). Ceremonial vestment. Linen.
16. (Show-case 1). Bust, probably representing the king's wife; she wears a crown. Wood, covered with painted gesso.
1668. (Show-case 9). Shawl with coloured stripes, and bird design on the edges. Linen.
- 757, 758. (Show-case 71). Head-cloth (757) and loin-cloth (758). Linen.
- 1190, 1191. (Show-case 94). Specimens of beadwork.
- 1071 to 1083. (Show-case 94). Fragments of the robes of the king. Linen, with decorations of faience beads and buttons, gold disks and cartouches, etc.

HALLS Nos. 8 and 7. — Centre:

Centre:

984. (Show-case 92). Canopic chest of alabaster on gilded wooden sledge (originally inside No. 985, Centre Show-case 90, Hall No. 9). On each corner is a protecting goddess, namely, Neith, Selqet, Nephthys and Isis, respectively.

1319 to 1322, 1323, 1702 (Show-case *). The four shrines which, placed one inside the other, contained the sarcophagus, etc., of the king. Each has double doors with bolts and is covered inside and outside with funerary scenes and texts. Some of the texts on the exterior of No. 1321 are enigmatical. Wood covered with gilt stucco (1319 to 1322). Between the two largest shrines was a wooden framework (1323) covered with a great linen pall decorated with gilt rosettes (1702)—see largest shrine (at west).

HALL No. 8. — North Wall:

746, 914. (Show-case 76). Two examples of a leopard's head of gilded wood; from the leopard's skin worn by certain priests. No. 914 bears the king's name in a cartouche.

1646. (Show-case 76). Parts of a linen garment imitating the priestly leopard skin referred to above (No. 746 belongs to it). The spots of the skin of the animal are represented by gold stars, while the claws are of silver.

1651. (Show-case 76). Fragments of a scarf. Tapestry-woven.

North Wall (each side of entrance of Room No. 3—Jewellery Room):

457, *. Two statues of the king. Grey granite. Karnak.

South Side:

98, 99, 102, 103. (Show-case 99). The king's state chariot. All the designs and inscriptions are in relief. Inside (top centre) are the monarchs' names in four cartouches. Below are the symbolical plants (lotus and papyrus) of Upper and Lower Egypt tied together, thus indicating that the king was lord of both lands. Underneath all is a row of Asiatic, Nubian and Libyan captives, tied by a cord at the neck and hands. At either end of the row is the king in the form of a sphinx crushing his enemies. Wood, covered with gilt stucco.

111, 112. (Show-case 99). Ends of chariot poles in the form of falcons crowned by the solar disk. Gilded wood. Other parts of the chariot are nearby.

97, 100, 101, 104. (Show-case 104). Another state chariot. Inside (top centre) are the royal names in cartouches.

On the sides of the chariot (inside and outside) are the sacred *udjat*-eyes of Horus which were supposed to watch the enemies. Near the eye on the right inner side is the serpent of "eternity". Wood, covered with gilt stucco and coloured glass inlay. Other parts of the chariot, etc., are nearby.

1325. (Show-case 100). Chariot of inferior work to the preceding ones. Wood, covered with gilt stucco. Nearby are other parts of this object, etc.

ROOM No. 4. —

This room contains the coffins and jewels of the king. The description commences with objects at the east end.

East End :

219. (Show-case 29). The third and innermost of the three mummiform coffins of Tut-ankh-amûn. The king is shown as wearing a false beard and holding the *nekhekh*-flagellum of "royal dignity" and the heqa-sceptre of "rule". On his brow are the uræus (Wadjet) and the head of a vulture (Nekhebet). On the body of the coffin are two vultures (one uræus-headed) symbolizing Upper and Lower Egypt (above) and the goddesses Isis and Nephthys (below), who are all protecting the king by stretching their wings over him. At the bottom of the feet end is Isis crouching on a golden pedestal protecting the dead Osiris (*i. e.*, the king himself who after his death was supposed to be identified with Osiris). Isis is here called "the great lady, the mother of the god", and addresses the king as follows: "I come and I go round behind thee, O my brother Osiris, [who art] king of heaven, powerful on earth and triumphant in the cemetery. Thou art with all the gods in the presence of Un-nefer (=Osiris)". Thick gold with decoration in faience, stone and glass. Total weight, about 110 kilograms.

East Centre :

536. (Show-case 42). Baton: an emblem of rank and dignity. Wood, covered with gold and inlay.
403, 406. (Show-case 42). Two heqa-sceptres of "rule". Bronze, covered with gold and glass.
404, 405. (Show-case 42). Two *nekhekh*-flagella of "royal dignity". Handles of bronze covered with gold and blue

glass; the ends of gold-covered wood, blue and green glass and carnelian.

452, 1184 to 1186. (Show-case 42). Four miniature coffins, perhaps models of the second of the three mummiform coffins of the king (No. 222 in Centre Show-case 36). These miniature coffins contained the viscerae of the king wrapped in linen. Gold, inlaid with semi-precious stone and glass.

312 to 316. (Show-case 30). Collars of the type called *usekh*. Sheet gold, and plaques of gold inlaid with polychrome glass.

Centre :

225. (Show-cases 33, 33 *bis*, 34, 34 *bis*). A dagger, the scabbard of which bears representations of wild animals; Cretan (Minoan) in style. Gold; inlaid glass.

226. (Show-cases 33, 33 *bis*, 34, 34 *bis*). Dagger. Blade of *unrusted* iron; handle of gold inlaid with glass with knob of rock-crystal. The scabbard is of gold.

227 to 232. (Show-cases 33, 33 *bis*, 34, 34 *bis*). A remarkably fine series of pectorals or breast-ornaments. Gold, polychrome glass, etc.

67, 69. (Show-cases 33, 33 *bis*, 34, 34 *bis*). Triple rings, one (67) with a scarab and solar boat as bezel, made of gold and lapis lazuli, and the other (69) bearing three scarabs, one of lapis lazuli and two of gold.

234, 235, 237, 256, 257, 264, etc. (Show-cases 33, 33 *bis*, 34, 34*bis*). Bracelets. Gold inlaid with stones, glass, and precious stones. The last three bear scarabs of various materials.

271 to 275, 293. (Show-cases 33, 33*bis*, 34 34*bis*). Amulets:- Lotus columns (271, 272); Anubis (273); Thoth (274); Horus (275); djed-pillar of stability (293). All (except No. 293 which is of gold with blue faience inlay) of gold and green felspar.

66, 83, etc. (Show-cases 33, 33 *bis*, 34, 34 *bis*). Plaques with openwork design; possibly part of harness decoration. Reddish gold.

65. (Show-cases 33, 33*bis*, 34, 34*bis*). Large scarab showing the king and the gods Atum and Horus. Lapis lazuli and gold.

71. (Show-cases 33, 33 *bis*, 34, 34 *bis*). A small ornament (?) showing the solar boat. Gold and silver.

76. (Show-cases 33, 33 bis, 34, 34 bis). A flying-scarab amulet. Gold and bronze.
220. (Show-case 32). Massive gold mask which was on the head of the mummy of the king. The headdress is decorated with inlaid stripes of blue coloured glass, while the eyebrows and lids are inlaid with lapis lazuli. In front are the usual uræus and vulture's head.
265. (Show-case 32). False beard belonging to the above-mentioned mask. Gold and blue glass.
267. (Show-case 32). Necklace removed from the same mask. A triple row of gold and blue faience disks; at each end is a uræus.

West Centre :

- 363 to 367. (Show-case 41). A series of ear-ornaments; they were attached to the ear by means of small tubes engaged one inside the other. Gold, carnelian, stones, glass, resin.
368. (Show-case 41). A small pectoral or breast-ornament containing a scarab and two uræi. Lapis lazuli, gold, glass and stones.
- 369 to 376. (Show-case 41). A series of pectorals, all in the form of shrines, containing scarabs, divine figures and symbols. Gold inlaid with glass green felspar, and silver.
- 377, 378. (Show-case 41). Two mirror cases, one (377) in the shape of the *ankh*-sign of "life", and the other (378) with its lower part in the shape of the emblem of "millions of years". Wood, covered with gold leaf.
379. (Show-case 41). Papyrus-burnisher. Ivory and gold. The actual burnishing end is of the latter material.
- 380 to 383. (Show-case 41). Painter's palette with six receptacles, some still having pigments. Ivory (380). Writer's palettes with pens. Wood, ivory and gold (381, 382). Pen-case in the shape of a column. Wood, ivory, etc. (383).
- 342 to 345, 347 to 354. (Show-case 40). A series of richly decorated pectorals. Various materials, such as gold inlaid with turquoise, etc.
346. (Show-case 40). Collar or stole of disk beads with spacers and end pieces of electrum. Green faience, gold and glass.
355. (Show-case 40). Box cover; openwork. Gold, inlaid with polychrome glass.
- 357, 359. (Show-case 40). Flexible bracelets made of beads and large and small scarabs. Electrum, lapis lazuli, carnelian, green glass, turquoise and gold.

North Centre:

445. (Show-case 35). Carved squatting statuette of Amen-hotep III; attached to a chain. Gold. Found in one of the miniature coffins (No. 443, East Centre Show-case, 317). (Show-case 35). Royal diadem found on the head of the king's mummy. It consists of a plain band of gold ornamented with rosettes of gold inlaid with carnelian. On the front are the head of the vulture and the uraeus, symbolizing Upper and Lower Egypt.
223. (Show-case 35). Casket, perhaps a perfume box, in the shape of two cartouches side by side. Gold, with silver base. The double lid of gold with glass inlay.
222. (Show-case 36). The second of the three mummiform coffins of Tut-ankh-amûn. It contained the gold coffin (No. 219, Centre, Show-case 29). Wood with a thin coating of gold bearing ornamentations in blue and red glass.
1188. (Show-case 36.) Bier which supported the three nested mummiform coffins of the king. Gilded wood.

South-West Wall :

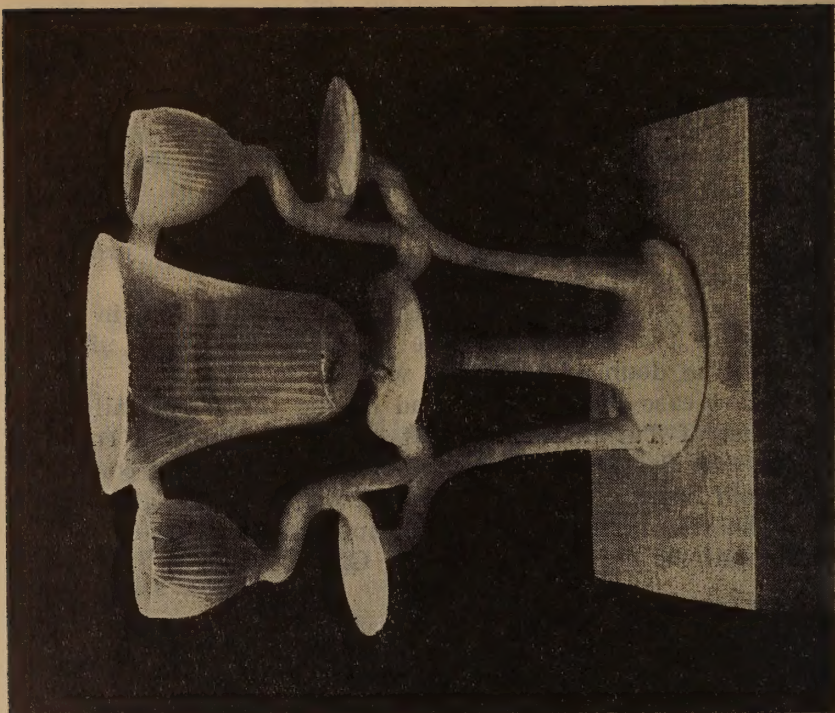
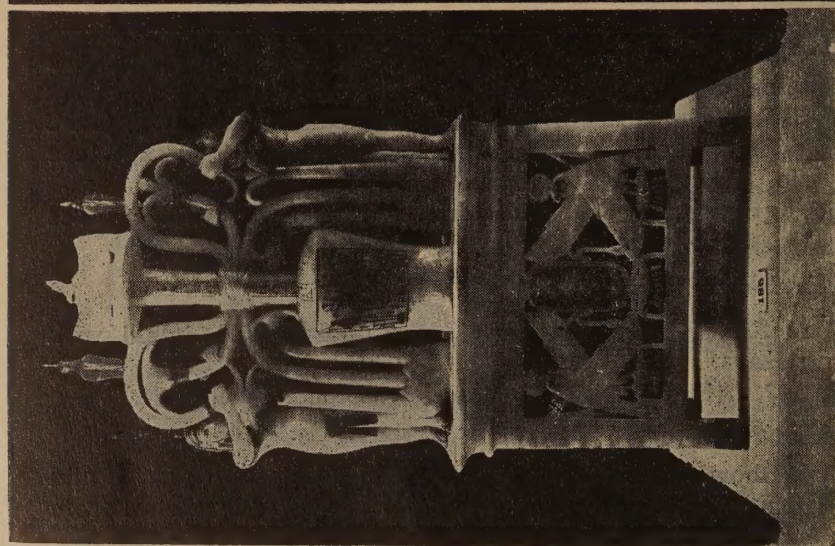
327. (Show-case 37). Sandals found on the feet of the king's mummy. Gold.
- 328, 329. (Show-case 37). Ten finger-stalls from the hands of the king's mummy. Gold.
- 330, 331. (Show-case 37). Ten toe-stalls from the feet of the same mummy. Gold.
- 334, 335. (Show-case 37). Body-belts from the mummy. Gold.
935. (Show-case 37). Nail for closing the gold coffin (see No. 219). Gold.
936. (Show-case 37). Nail for closing the wooden coffin see No. 222). Silver.

North-East Wall :

- 516 to 518, 976. (Show-case 79). Collars. Gold, inlaid with glass.
- 590, 592. (Show-case 79). Bracelets. Blue faience, gilt.

East Centre :

336. (Show-case 39). Trappings (gold inlaid with glass), and pair of dummy hands grasping the royal insignia, all from between the bandages of the mummy.
224. (Show-case 39). Pectoral in the form of a human-headed falcon, symbolizing the soul. Gold and glass.



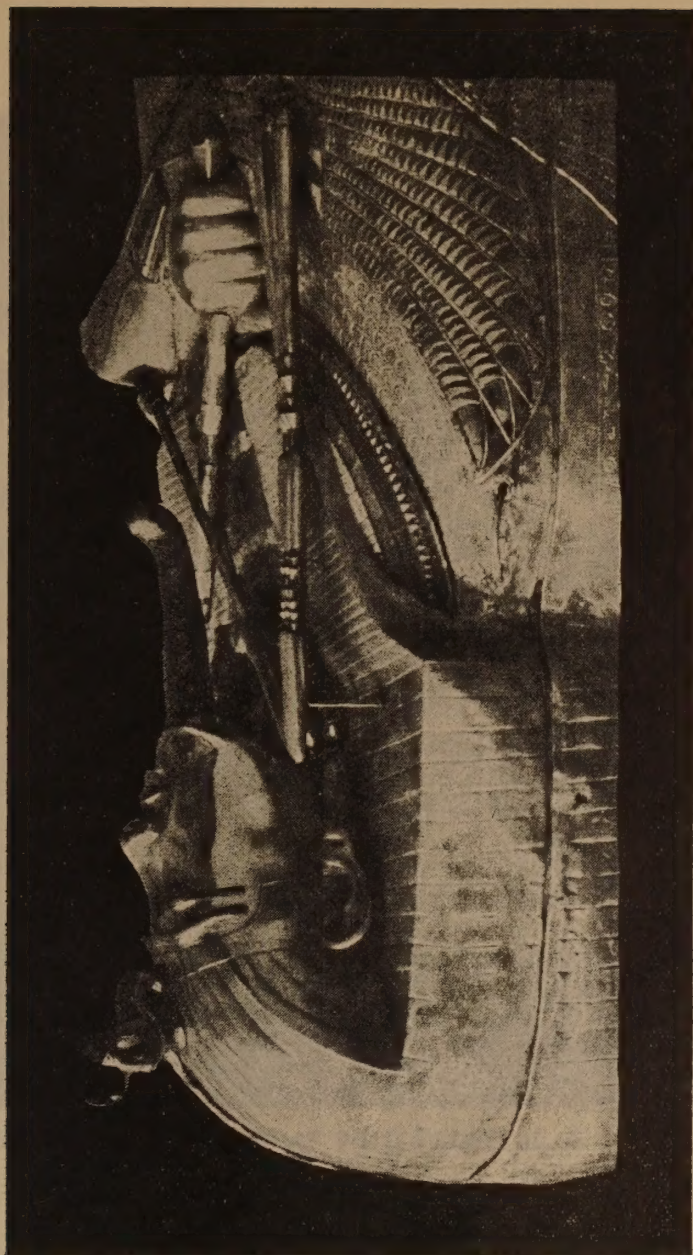
ALABASTER VASES



ALABASTER VASE.

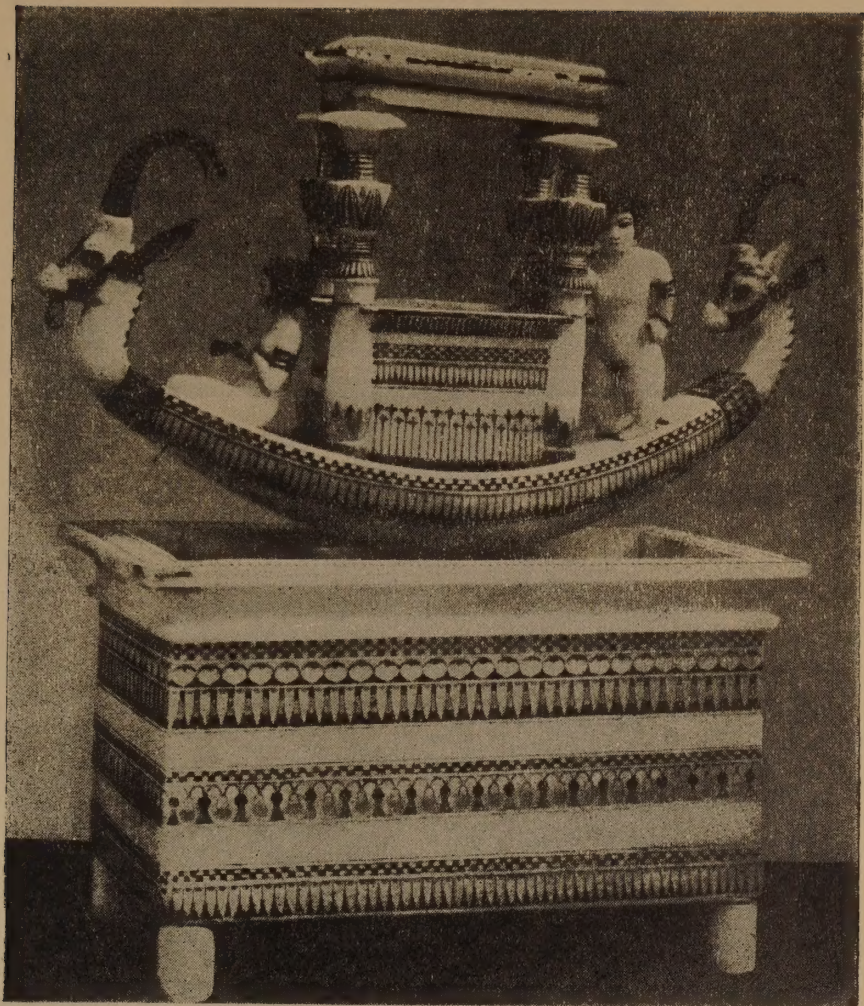


ALABASTER PERFUME-VASE. P. 8, No. 183.



HEAD END OF THE COFFIN OF TUT-ANKH-AMUN

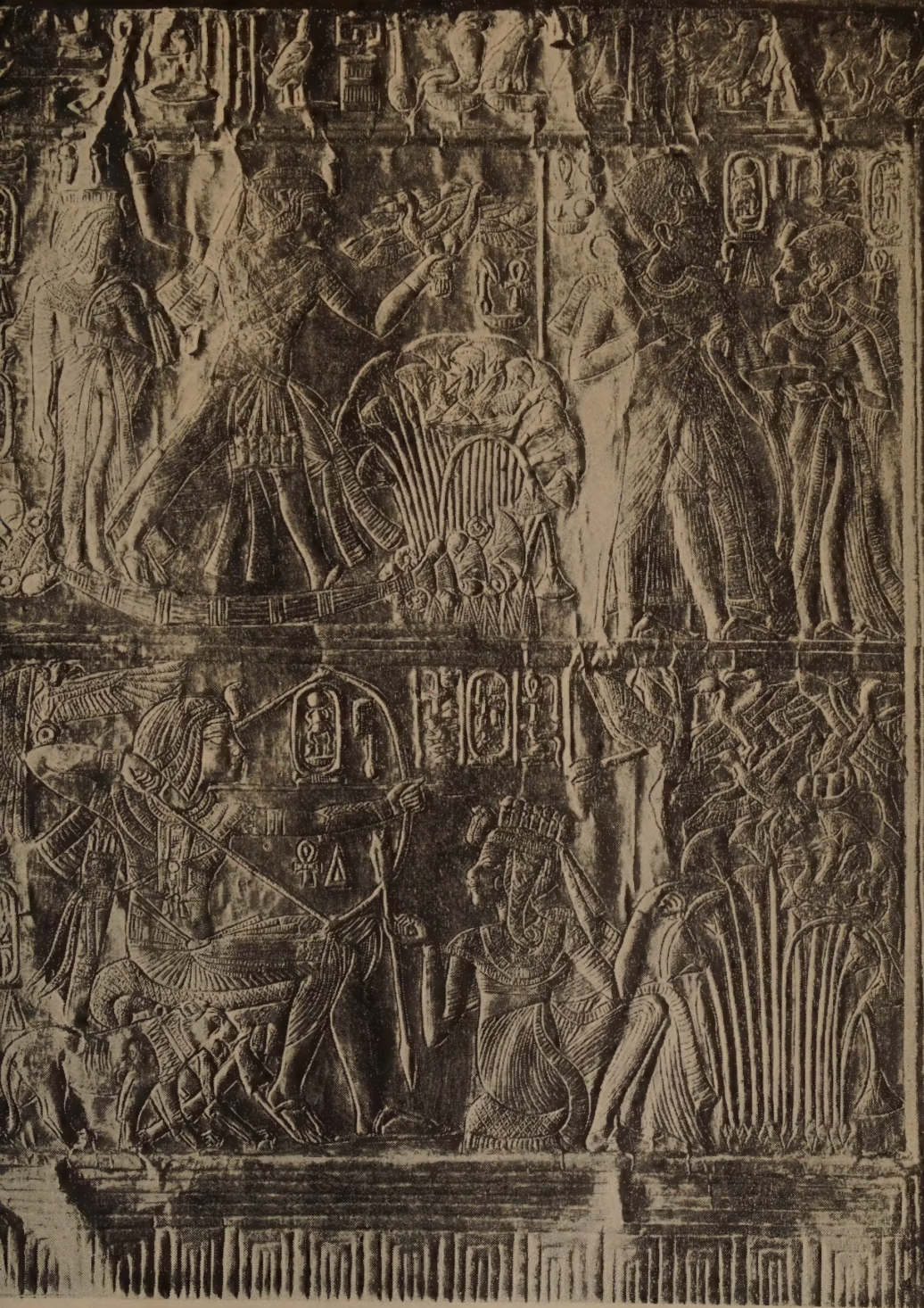
P. 16, No. 219.



ALABASTER MODEL OF BOAT WITH PEDESTAL. P. 11, No. 535



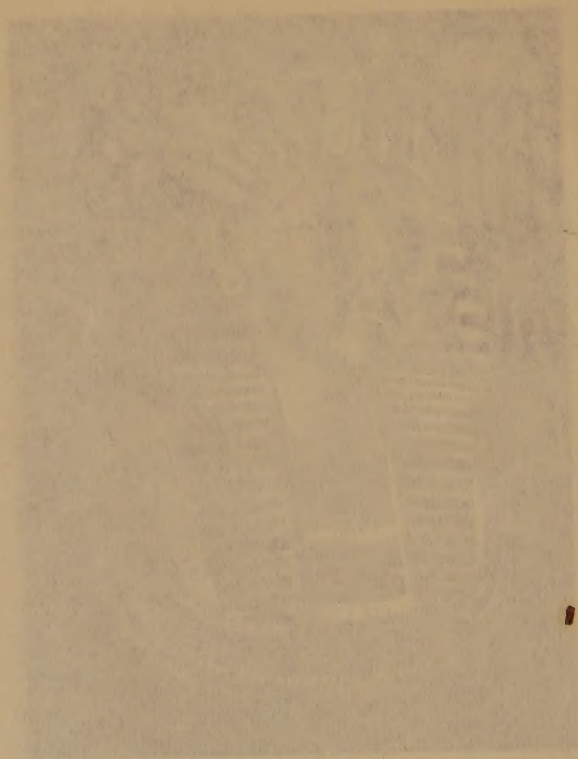
FAN-STOCK WITH OSTRICH HUNTING SCENES. P. 9, No. 735.



A SIDE OF THE GOLDEN SHRINE SHOWING HUNTING
SCENES. P. 8, No. 14.



BACK
OF THE
KING'S
THRONE
page 7,
lo. 1



THE GOLD MASK (FRONT VIEW)

June 13

We left Payne field near Cairo at 5 a.m. (Cairo time). It was still dark when we got into the plane, with the beginning of dawn as we reached flying height. At first there was a lot of dune sand intermingled with hard land; but soon we left the sand dunes and passed over dark, hard looking, eroded desert with dendritic gullies partly filled with sand. Perhaps there was more sand than I could see in the faint light of dawn. Almost immediately we passed over the Suez Canal at Ismailla on our way to Tehran.

After the Canal we passed over a series of low dune ridges to El Arish. Here there was some arable land. The fields were laid out in metes-and-bounds pattern with many of the fields rectangular. Here too, there was evidence of exposed caliche. A little beyond, I could see Gaza in the distance. The land was nearly all tilled. There are a good many streams with characteristic dendritic erosion patterns, as in loess, back a few hundred feet from the main streams. As we came to Bethlehem and Jerusalem there was a beautiful agricultural landscape with many terraces and orange trees. In places the soil appeared to be definitely Terra Rossa, and then beyond Jerusalem there were badlands with rounded tops to the Dead Sea. Certainly aerial photographs around Bethlehem would be very beautiful indeed. It is one of the prettiest landscapes I have ever seen.

Jericho and the evaporation pans along the northern part of the Dead Sea and the Jordan River came into view.

June 13

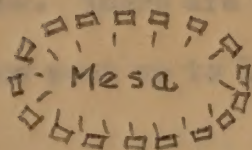
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For a long way to the east there is mostly uninhabited desert; the land is hard with sand-choked channels, often having some green patches along them.

We passed Rutba Wells in the extreme desert. The land appears to be hard with occasional flat mesa tops. Some of the mesas had rectangular areas blocked off around the base; perhaps these are foundations for barracks or tents.



Along here we saw a sand storm in the desert. For part of the way we followed the oil pipe line. A few miles west of the Euphrates River, there is gently rolling barren desert, pale-brown in color. The dissection is low, with many low mesas. There are sandy water courses but most of the land is hard. Here we followed the pipe line quite closely. We could see a few villages and camps.

Even as the Euphrates River came into view the land was still nearly barren with little evidence of vegetation. There were many fingering drains into the river, and some cultivation within the stream courses on what appeared to be silty loess. We then passed over a salty lake (Habbaniya). Along the river there was some grass and forage, a few orchards, and many cereal stubble fields. The green fields that we could see were probably a second crop of barley.

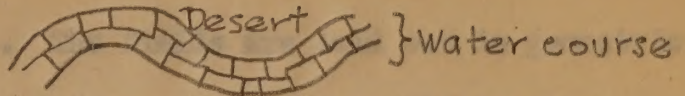
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laid out in squares with roads. We crossed over the divide of the Tigris River, and the city of Baghdad came into view. There were many orchards near the river. We then passed over the Great Zab River (Diyala). Here the land was nearly barren with old irrigation works in evidence and abandoned fields. There were a good many fields laid out within the water courses.



The soil appeared to be a pale brownish-gray silty alluvium, possibly from loess. There are some old river beds on the mesas.

(The plane now went up to 13,000 feet and I got a little short of breath.)

The plane then passed near the town of Naft Khaneh. The landscape to the east consists of more dissected highlands. The land has a reddish tinge with gray peaks. Stream channels are nearly mature.

We left Irak and passed into Iran as we flew over the Zagros Mountains. A good deal of vegetation appears along the stream courses and on the slopes. As we get into the mountains the slopes are very steep and the peaks rugged and of slate-covered rocks. There appeared to be acacia trees and probably others. Cereals are grown on terraced and irrigated land along the wider valleys.

By now we were well into Iran, along the old trade route to China. Occasionally the black tents of the nomads could be seen. There was a general greenish cast to the landscape and green amphitheaters, especially on slopes to the northeast. South and west of Kermenshah we passed over a fine city, with rather intensive agriculture. There are many villages in the lowlands and some on the slopes. (Kurdistan District).

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There is some accelerated erosion but not nearly as much as I had expected. In the far northern distance we could see snow-capped mountain peaks.

The city of Kermanshah came to view about 20 miles north. There was a good deal of agriculture, with terraces on the contour, and orchards near the live streams. The fields are laid out in geometric pattern. There are large dry-farming areas on the rolling valley lands leading into these snow-capped mountains. There are a great many small villages. Here and there are irrigated orchards and gardens near the live streams, and apparently a great deal of flood irrigation for cereals.

A little further on we passed over a beautiful green valley in going over the "gate to China." From the plane we saw the place where is situated Behistun Rock, or Panel of Languages, that has served as a key to many oriental languages. Then we passed over Assadad. This brought us into rougher country but with cultivated valleys. Here the plane flew over the Assadad Pass. There was snow in the gullies and on the bare mountain slopes. Far to the south there were snow-capped high mountains.

We left the mountains and came over to the Iranian Plateau with good land for cultivation. We saw this just before coming to Hamadan — the seat of the story of Esther. Apparently all the people live in villages. There are no scattered farms. The soil is reddish-brown. Just east of Hamadan there were snow banks directly underneath the plane. Then we passed over beautiful little high valleys with

There is some accelerated erosion but not nearly as much as I had expected. In the far northern distance we could see snow-capped mountain peaks.

The city of Kermanshah came to view about 20 miles north. There was a good deal of agriculture, with terraces on the contour, and orchards near the live streams. The fields are laid out in geometric pattern. There are large dry-farming areas on the rolling valley lands leading into these snow-capped mountains. There are a great many small villages. Here and there are irrigated orchards and gardens near the live streams, and apparently a great deal of flood irrigation for cereals.

A little further on we passed over a beautiful green valley in going over the "gate to China." From the plane we saw the place where is situated Behistun Rock, or Tunnel of Languages, that has served as a key to many oriental languages. Then we passed over Asadabad. This brought us into rougher country but with cultivated valleys. Here the plane flew over the Asadabad Pass. There was snow in the gullies and on the bare mountain slopes. Far to the south there were snow-capped high mountains.

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nice villages, green fields, terraces, and irrigation. There were also orchards. Here the land is laid out in geometric pattern, but the corners of the fields are rounded. (Near Elband Mt.)

After this landscape we passed out into high rolling dry land, mostly abandoned. By far the best farming is along the streams that are fed by the snow, even now in the middle of June. There are a few small irrigated districts in this plateau region.

As we approach Tehran there are high mountains far ahead -- up to 19,000 feet. Just before reaching Tehran a large area of relatively dry, gently rolling country with a few villages in favored places, was passed. From the plane we could see rows of kalmats or breather holes for underground water tunnels.

Immediately before reaching Tehran we came upon a green valley with grain and orchards on slightly brownish-gray or slate-colored soil. There were a great many little villages. Most of the fields are laid out in small squares and rectangles for irrigation.

At 10:30 we began to descend, and we landed in Tehran at 10:35 (or 11:35 Tehran time).

Tehran, the Capital, is the meeting place for Asia, Europe, and Africa, and now the Americans must be included. The air field is shared with the Russians who have a large group of soldiers in Tehran, as well as the British and the Americans. There are also camps for Polish families, as well as Polish girls who are refugees from their own country.

67
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We went out to the American army post and had lunch. While the others took a siesta I drove out in the country in an army jeep. I have never seen more badly overgrazed pastures. The land looks like Desert, is called Sierozem by the Russians, and is regarded as Reddish-Brown by me. The vegetation is scanty and there is little grass because of the extreme grazing by goats. The soil appears to me to be a Reddish-Brown gravelly silt loam, with a fairly well developed lime zone, developed on cobbly materials of mixed origin, containing a large proportion of dark colored rocks. The soil has faintly developed prismatic structure in the B, with a lime zone at 12 to 18 inches that appears to be almost wholly pedological lime. The soil is relatively loose on the surface and much tramped by goats. Because of its openness and high content of gravel, accelerated erosion is not too serious. This soil could support several times the animals it does now by re-seeding and controlled grazing.

A good deal of the agriculture of this area is on the terraces and alluvial soils that are irrigated with water carried in underground tunnels for the most part, without benefit of tile or pipes.

We drove out to Darband, a beautiful little city in the foothills of the mountains, where the Shah has his summer palace. There are many nice gardens. On the whole, the people look to be not too healthy, and certainly not very vigorous.

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1265th AAF Base Unit
NORTH AFRICAN DIVISION
Air Transport Command
APO 523, c/o PM, N.Y.C.

SUGGESTIONS TO MAKE YOUR STAY IN TEHERAN MORE PLEASANT

You are now in Teheran, the capital of Iran, a beautiful modern city but still full of the strange customs of the Middle East. You landed at a Russian controlled airport, Qualeh Murgheh. In order to facilitate your stay in Teheran the following items are listed for your information.

1. Finance- The medium of exchange is the rial. \$1.00 is equivalent to 32 rials. One rial is equal to 3.125 cents. The location of the finance office at Camp Amirabad, from which the ATC functions is noted on the map.
2. Medical- The prevalent disease are malaria, typhus, sand-fly fever, and all venereal diseases. Dysentery can easily be caught by eating in Teheran proper and by drinking the water. All water at Camp Amirabad is safe. Note the map for location of Hospital and Dispensary.
3. Messing and Billeting- Officers will be taken to the Billeting Office where they will be assigned their rooms. They mess at the Officer's Mess. The hours are:

Week-Days		Sundays
Morning	0600 to 0700	0700 to 0900
Noon	1130 to 1300	1145 to 1330
Evening	1800 to 1930	1800 to 1930

Should an officer arrive at Teheran between the above hours he may eat at the 24- hour mess (see Map)
Enlisted men will be taken to the Transient Quarter. Here they will be assigned their billets through the Tent Orderly Room, (see Map) They will mess at the 24- hour mess, using their mess kits.

4. Uniform- Class A uniform is worn off the post. On the post it is optional. Blouses are in order for Officers after 1800 at the Officer's Club. *DURING WINTER ONLY*
5. Religion- Catholic Mass is every Sunday at 0700 and 1130, and on Tuesday, Wednesday and Saturday at 1545.
Protestant Services are held each Sunday at 0800, 1000, and 2000 and Wednesdays at 2000.
Jewish Services are each Friday evening at 1845.
6. Recreation- There is entertainment for enlisted men at Enlisted Men's Club. Usually there is a movie beginning at 1800 and 2000. Inquiry at the Tent Orderly Room will give information of the location of Enlisted Men's Bars. Dances are held on Saturday nights at the Enlisted Men's Club.
Inquiry from telephone number 319 will tell one the times of American Red Cross conducted tours through the city of Teheran.
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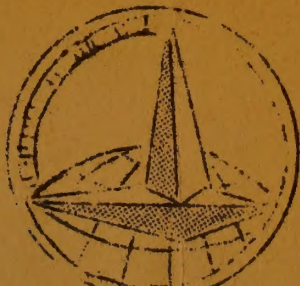
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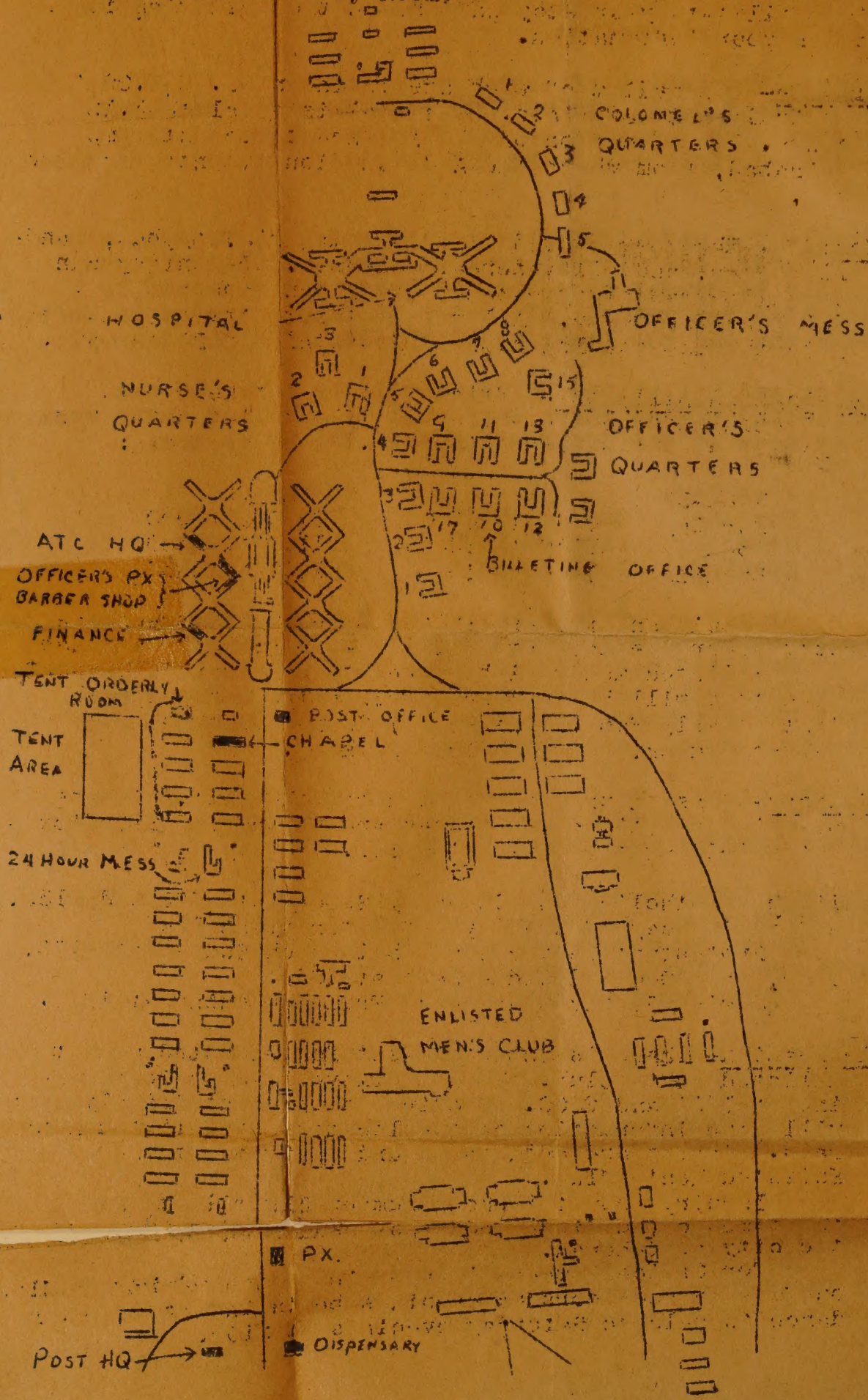
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7. Transportation- For travel from Teheran by motor transport or rail call 323. For travel by air call 135, ATC. All three transportation offices are in the same room. (ATC HQ, see Map) Officer's may call 160 for private transportation to Teheran. For both Officers and Enlisted Men there is a bus to Teheran. Schedules may be found at the Officer's Club or Tent Orderly Room.



After a wash and change at the camp, we drove through Tehran and called upon our Ambassador briefly. He was relatively new and obviously didn't want many questions asked. Then I had dinner with a Mr. Harris and Dr. A. G. Black. Neither impressed me as being very happy about the position of the Iranian Government in relationship to the U.S.S.R., and possibly other Governments. To bed at the camp about 10:30 p.m.

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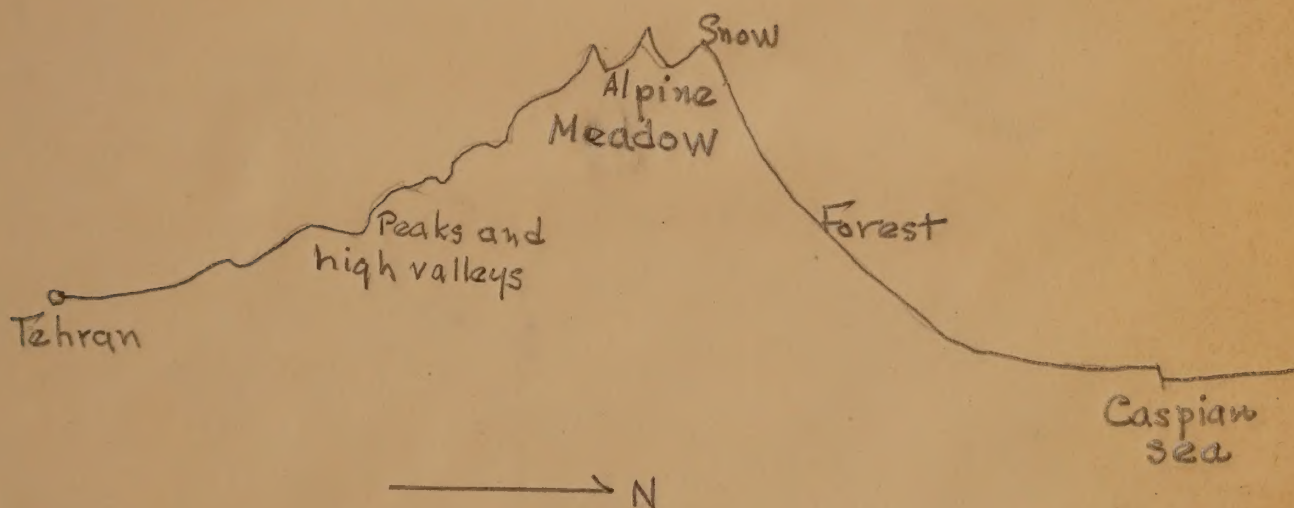
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June 14

We were up about 3 a.m., and left Tehran at 5:15 a.m. in a C-47 Douglas plane belonging to the Red Army. I was much impressed by the skill and deportment of our pilot. We passed along a continuation of the large valley in which Tehran is located and saw many villages. There were only a few trees along the main roads but many near and in the villages. There were very few scattered farms.

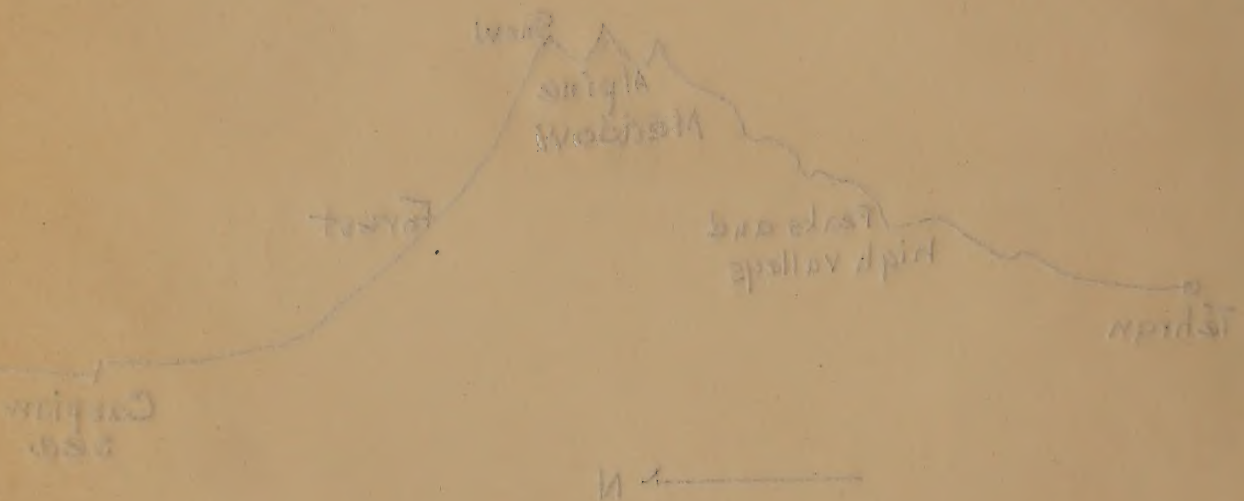
In a little while we found ourselves climbing very high to get over the El Burz Mountains. These are rugged and eroded. There are many little villages in the valleys that are likely about the same today as they were in the time of Alexander the Great. There was snow on the high mountains and what looked to be very fine Alpine Meadow, and then the clouds over the peaks prevented us from seeing much for quite a distance.



As we dropped down toward the Caspian Sea there was heavy forest on the north slope. Streams carried water in abundance. Apparently there were some swamps along the mouths of the streams. It is difficult at this point to get a detailed view of the coastal plain

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because of the sun which is so beautifully reflected in the Caspian Sea.

We were shortly over two layers of cumulus clouds, one near the water and a higher one that was moving very rapidly. Through these I could occasionally get a view of the Caspian Sea.

It was possible to see Lenkoran on the west bank, and later we could see the big rivers flowing into the Caspian from the west (especially the Kura). We could get just a glimpse of the Caucasus Mountains, including some high peaks.

We dropped to 5000 feet over the Caspian and came toward Baku. From a distance the land appeared to be a light brownish-gray. Along the coast a few miles south of Baku there is a beautiful little spit running south from an island. (Reminded me of Duluth.) We passed along several other little islands. The coastal plain appears to be quite narrow between the foothills of the Caucasus and the sea.

Baku is a very large city with many outlying villages. The oil industry covers a very large area with some wells out in the sea itself. The airport is about 15 miles from the central part of the city. The soil appears brown and looks as if it might be quite silty. We came down at Baku at 7:45 a.m. (Tehran time). There were a good many Russian planes on the field like ours, and apparently a great deal of activity, much of which was being carried on by German prisoners under the inspiration of Russian guards.

We were met at Baku by member of the Azerbaijan Academy of Sciences who gave us our first Russian banquet at about 8:30 in

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At Baku our baggage was inspected, a little superficially, and we legally entered the U.S.S.R. We left in the same plane at 10:10 a.m. (Baku time).

In a very few minutes the plane was over the Caspian Sea. The coastal plain along the western shore is not very wide and is backed up by a rather strongly dissected plateau, so far as I could see. This continued for a good many miles but details could not be observed since the plane was some distance out at sea. Where the streams entered the coastal plain, it was considerably wider. At around 11:45 a.m. we passed by Derbent. A few miles beyond, the coastal plain became much wider, and appeared to be quite dry in the Kuma River District. The plane followed the shore of the Caspian a short distance beyond the mouth of this river. At the extreme right I got a glimpse of the delta of the Volga, which has a very complicated pattern of channels, perhaps a little like the Mississippi delta.

We flew over the Kalmyk Steppes. This was the beginning of the German retreat where many thousands of Nazis froze to death. There is an extremely irregular pattern of roads and fields. Much of the land appears not to be used. From the plane the land appeared to become greener as we went north, although I suspect it is mostly Sierozem. There are a great many irregular spots that at first look

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There is a vast area of country covered with these spots and having very little drainage pattern of any kind. The land seems to have grazing plants, but I could see no animals and few trails. Although the spots are irregular, the longer axis of a great many runs northwest and southeast. This is the largest area of wild semi-desert I have ever seen.

Some distance south of Stalingrad we came over an area of brown soil where there is considerable cultivation and gully erosion. As the Volga River came into view south of Stalingrad, the percentage of arable land was increasing.

Certainly Stalingrad appeared like the devastated city we had read about, although there was a good deal of activity along the river, especially in the northern part. Much of the city has only bare walls, with the interiors of the buildings destroyed. On the margin of the city there were many green fields but a good many gullies. 90 miles beyond Stalingrad the land appeared to be much better with a large part green. Perhaps one-tenth was in fallow. The land is gently rolling and dissected, but there was little accelerated gully erosion evident. Beyond Stalingrad the Volga

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could be seen on the right and the Don on the left.

On the slopes to the Don there are a great many bare areas, which may be the result of military operations.

Huge shell holes can be seen all over this region. Continually, as we go north, there is more green and darker soil.

About 80 miles north of Stalingrad the soil appears to be Chernozem. Here too, there are a great many spots in the field where the peasants have worked around shell holes or burned out tanks. The slopes on the east side of the Don appear not to be used, at least now. Patches of forest made their appearance.

We crossed the Medveditsa River near a large village. This is a mature stream with a wide valley and many beautiful oxbow lakes, together with some swamps. The fields are rather large and laid out in a geometrical pattern. A few of them are long and narrow. One can identify oats from the plane, but the other grain is short. There is no evidence of ripening grain.

100 miles or so further on there was a conspicuous area of rotation forest. Near Borisoglebsk we saw a beautiful Chernozem landscape. As we proceeded we passed many large villages. The occasional gullies which have cut back appear to be well stabilized with plants. There are almost no scattered farms. In the land-use pattern there are many irregular pieces of unused land and quite a bit of land is wasted along the headlands of the fields. So far as I could see there was practically no fencing. Shortly after

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passing over Michurinsk we came into the forest-steppe transition and the soil was not so black as further south. The same landscape was seen around Ryazsk and further on. Occasional spots show serious sheet and gully erosion. Near Kashira, about 110 kilometers from Moscow, there seemed to be podzolized soil with, perhaps, some degraded Chernozem. White birch was prominent in the forest.

We were over Moscow at 6:15 p.m. The whole landscape consists of roads, buildings, and victory gardens. It seemed as if every available piece of land was being used for gardens, in which potatoes were the principal crop. We landed at a huge airport in Moscow at 6:30 p.m.

At the airport we were met by several members of the Academy, including Polynov and Antipov-Karataef. After the usual pictures and greetings we were driven in cars to the National Hotel. After some slight delay and confusion we were assigned rooms nearby on the 8th floor of the Moskva Hotel. (I had Room 813.) It was arranged that we should have our meals in the dining room of the National Hotel. These hotels are on opposite corners of Gorki and Mokhovaya Sts. After dinner in the National Hotel, I went to bed, but had to get up about midnight to interview report^{ers} and "give a message to the people of Moscow," which was published the next day in *Isveztia*.

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On arrival in Moscow. Left to right: Prof. Church; Vice-president Academy of Sciences, U.S.S.R.; Dr. Shapley; Dr. Macinness, Dr. Bronk; Dr. Vallarta; and Dr. Koltoff (far right).

наук СССР



Прибытие делегации учёных США на юбилейную сессию Академии наук СССР. На снимке: Герой Социалистического Труда академик И. П. Бардин (в центре) с группой американских учёных на Центральном аэродроме в Москве.

Фото С. Коршунова.

Arrival in Moscow, evening June 14, 1945
Left to right: Antipov-Karataev, Polynov,
Kellogg, _____, Church, Alexander, _____.
Pravda, June 15, 1945

Pravda, June 18, 1945. _____
Kellogg, _____, Church, Alexander,
Left to right: Antipov-Karstsev, Polynov,
Arrival in Moscow, evening June 14, 1945

MOSCOW



TOURIST MAP

June 14, 1945
Sov. Polym.
Sanger, _____



Москва. Вид на Кремль со стороны Большого Каменного моста.

фото И. Грановского ф-10500



Москва. Охотный ряд.

фото Н. Грановского ф-10356



Москва. Вид на Большой Каменный мост со стороны Берсеневской набережной.

фото Н. Грановского

ф-10361



Москва. Жилые дома на Чистопрудном бульваре. фото Н.Грановского ф-10358



Москва. Жилые дома на Можайском шоссе. фото Н.Грановского ф-10519



Москва. Манежная площадь.

фото Н. Грановского ф-8200



Москва. Государственная библиотека им. В.И. Ленина.

фото Н. Грановского ф-10516



Москва. Манежная площадь. Справа - гостиница „Москва.“ фото Н. Грановского ф-10353



Москва. Первая Мещанская улица.

фото Н. Грановского ф-10527

June 15

I got up and was on the street about 7:30 a.m., which is far too early for Moscow. Although we were told that we could get our breakfast any time after 8 o'clock, I soon discovered there was no use going much before 9.

Here and there one saw damaged buildings. Most of those that could be repaired had been. A few were completely destroyed. One also saw some partly completed apartment houses and other buildings the completion of which had been postponed during the war. Curiously the Kremlin had suffered little damage during the war.

The people, especially the women, are not well dressed, but they are alert and, considering what they have been through, more healthy and happy in appearance than I should have expected. About two-thirds of the ordinary work on streets, bridges, buildings, and so on was being done by women.

After breakfast the group of us met Mr. Harriman, the American Ambassador in Moscow. He gave us a general picture of some of the factors involved in American-Soviet relations. I had lunch with Mr. Bulik and Mr. Stevens of the Embassy. The early afternoon was spent with Mr. Bulik going over his work as Agricultural Attaché and with plans for our working together during my visit in Moscow and Leningrad. I was much impressed with his spirit of helpfulness and ability.

June 12

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АКАДЕМИЯ НАУК СОЮЗА СОВЕТСКИХ СОЦИАЛИСТИЧЕСКИХ
РЕСПУБЛИК

Удостоверение

Г-н Келлог Чарльз Эдвин

является участником Юбилейной Сессии Академии Наук СССР,
посвященной 220-летию Академии Наук.



Г-ну Келлог Чарльз Эдвин

выдан значок

участника Юбилейной Сессии № *51*

Президент Академии Наук СССР

академик *В. Л. КОМАРОВ*

Академик-секретарь Академии Наук СССР

академик *Н. Г. БРУЕВИЧ*

15 июня 1945 г.

ПРИГЛАСИТЕЛЬНЫЙ БИЛЕТ

Президиум Всесоюзного Комитета по проведе-
нию 220-летнего юбилея Академии Наук СССР
приглашает Вас на концерт, посвященный Юбилей-
ной Сессии Академии Наук.

Концерт состоится в Большом Театре Союза ССР

29 июня в 8 часов вечера.

Ваше место прилагается



Вчера первый заместитель Председателя Президиума Верховного Совета СССР тов. Н. М. Шверник вручил ордена большой группе академиков и членов-корреспондентов Академии наук СССР. На снимке—сидят (слева направо): Герой Социалистического Труда академик М. А. Павлов, Герой Социалистического Труда академик Т. Д. Лысенко, Н. М. Шверник, Герой Социалистического Труда президент Академии наук СССР академик В. Л. Комаров, академики Н. Д. Зелинский и Д. Н. Прянишников. стоят: Герои Социалистического Труда академики И. П. Бардин, И. М. Виноградов, Л. А. Орбели, И. И. Мещанинов, А. И. Абрикосов и А. А. Байков. Фото С. Гурарий

СР от имени Королевского общества, и адреса, которые мне поручили передать андонский, Кембриджский и Оксфордский университеты, общества археологов, химиков, физиков, геологов, Фарадеевское общество, Розенстедская агрокультурная ассоциация, Королевский медицинский институт, Ассоциация научных работников и т. д. Мы прибыли в Москву, чтобы установить более тесный контакт с научными учреждениями СССР и отдельными учеными, лично не зная русского языка, но многие мои ученики его уже постигли. Вообще интерес к русскому языку и русской литературе в Англии чрезвычайно велик. Об этом свидетельствует, например, организация русских отделений почти во всех английских университетах. Мы убеждены, что этот приезд в СССР будет способствовать более тесному сближению научных учреждений и ученых СССР и Англии.

Об этом же заявили корреспонденту Известий члены Королевского общества профессора Гишльауд и Доннан.

— СССР занимает первое место среди

делает корреспонденту, представляющих ведущие области науки.

— Приглашение американских ученых на юбилейные торжества Академии наук СССР произвело очень сильное впечатление на научные круги США по многим причинам. Во-первых, это — первый международный конгресс ученых, созданный после войны в Европе. Во-вторых, инициатива созыва такого конгресса принадлежит СССР, который так много сделал для победы над гитлеровской Германией. Со стороны Советского Союза очень благородный акт — предоставить возможность общения ученым многих стран для того, чтобы они ближе познакомились с последними достижениями науки и могли установить между собой личный контакт. Мне было особенно приятно приглашение приехать потому, что некоторые мои работы переведены на русский язык и известны русским ученым. Я очень рад возможности лично познакомиться с академиком Фрумкинским, работы которого чрезвычайно высоко оцениваются в научных кругах США.

В составе английской делегации 20 видных ученых, представляющих ведущие области науки.

— Вместе с американской делегацией, насчитывающей 15 человек, прибыли видный мексиканский ученый-физик профессор Ваярта, профессор Калькуттского университета Мегхнад и другие.

Вчера в Москву прибыли также делегация ученых Чехословакии во главе с профессором З. Неелды и делегация Ирана, возглавляемая президентом Иранской Академии наук профессором Самии.

В составе делегации ученых Югославии, прибывших на юбилейные торжества, — президент Сербской Академии наук академик А. Белич, президент Сербской Скупщины член Сербской Академии наук С. Станкович, представитель Словенской Академии наук в Любляне академик Ф. Кидрич, ректор Белградского университета и президент Всеславянского комитета в Белграде Е. Неделькович и профессор Белградского университета П. Савич.

доктора химических наук, го лабораторией Института химии.

239. Петрова Николая Николаевича члена-корреспондента Академии наук СССР.

240. Петровского Ивана Георгиевича члена-корреспондента Академии наук СССР.

241. Передерия Григория Ивановича академика.

242. Пиксанова Николая Кирилловича члена-корреспондента Академии наук СССР.

243. Пинеса Льва Яковлевича члена-корреспондента Академии наук, заведующий лабораторией Физиологического института имени И. П. Павлова.

244. Пиотровского Бориса Борисовича доктора исторических наук, научного сотрудника Института материальной культуры Академии наук СССР.

245. Пичета Владимира Ивановича члена-корреспондента Академии наук СССР.

246. Плоткина Льва Абрамовича члена-корреспондента Академии наук, директора Института

Увеличивается пошивка одежды

На предприятиях Главного управления легкой промышленности Наркомлегпрома РСФСР расширяется выпуск швейных изделий. В третьем квартале пошивка этих изделий возобновляется на большинстве фабрик, в том числе Смоленской, Брянской, Клинцевской, Ярославской, Свердловской и других. Будут выпускаться брюки, мужские, женские и детские пальто и комбинезоны.

106 тысяч индивидуальных огородов

КРАСНОЯРСК, 14 июня. (По телеф. от соб. корр.). В этом году под индивидуальные огороды трудящихся вблизи города занято 5.500 гектаров земли — на 700 гектаров больше, чем в прошлом году.

Количество индивидуальных огородов увеличилось по сравнению с прошлым годом почти на 10 тысяч и достигает 106 тысяч. Большинство красноярцев закончило посадку картофеля. Идет высадка рассады капусты и помидоров.

Дома для тульских угольщиков

ТУЛА, 14 июня. (По телеф. от соб. корр.). Трест «Тулжилстрой» построил на угольных шахтах 18 новых стандартных домов. Дома эти, собранные из деревянных щитов, — одноквартирные, двухквартирные и четырехквартирные. Строители в течение четырех дней поставили их на каменные фундаменты.

Дома предназначены для лучших стахановцев и инженерно-технических работников шахт.

Как уже известно из сообщений от 6 мая, военными властями фронта была арестована группа в главе с генералом Окулицким по обвинению в организации террористических актов, а также в содействии

Президент Академии Наук СССР

академик В. А. Комаров

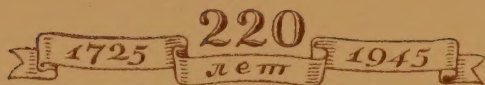
Приглашает г-на Желлоу Чарльз Эдвин

на прием по случаю 220-летия

Академии Наук СССР

15 июня 1945 года от 20 до 22 часов

Адрес: Б. Коммунальная, 14. Президиум АН СССР



АКАДЕМИЯ НАУК СОЮЗА ССР



**ЭКСКУРСИИ
В МОСКВЕ
И ЛЕНИНГРАДЕ**

ИЗДАТЕЛЬСТВО АКАДЕМИИ НАУК СССР

Москва 1945 Ленинград

1725 220 лет 1945
АКАДЕМИЯ НАУК СОЮЗА ССР



ЭКСКУРСИИ В МОСКВЕ И ЛЕНИНГРАДЕ

ИЗДАТЕЛЬСТВО АКАДЕМИИ НАУК СССР

Москва 1945 Ленинград

МОСКВА



Экскурсия № 1

17 июня Кремль и его памятники.
Воскресенье Красная площадь — Мавзолей Ленина.
11—16 часов Храм Василия Блаженного.

Кремль — замечательный архитектурный ансамбль, состоящий из исторических памятников русского зодчества XI—XIX веков.

Красная площадь — место важнейших исторических событий русской общественной и государственной жизни.

В настоящее время на ней происходят парады и народные демонстрации.

Участники экскурсии собираются в вестибюле гостиницы «Москва» в 10 час. 30 мин.

Экскурсия № 1 проводится
группами 17, 21, 22 и
23 июня.

Экскурсия № 2

Музей Ленина (площадь Революции).
Исторический музей (Красная Площадь).
Музей Ленина — собрание документов и
художественных произведений, относя-
щихся к жизни и деятельности
В. И. Ленина.
Исторический музей — собрание памятни-
ков материальной культуры русского
народа.

Участники экскурсии собира-
ются в вестибюле гостини-
цы «Москва» в 11 часов.

Экскурсия № 3

13

~~19~~ июня Музей Л. Н. Толстого (ул. Кропот-
кин, 11).
Вторник

11—16 часов Усадьба Л. Н. Толстого (ул. Льва Тол-
стого, 2).

В Музее Л. Н. Толстого хранится руко-
писное наследство, а также собраны

произведения искусства, связанные с жизнью и творчеством писателя.

В усадьбе сохранена подлинная обстановка времен Л. Н. Толстого.

Экскурсия № 4

1912-
11-16-
Геологический музей им. А. П. Карпинского Академии Наук СССР (Б. Калужская, 14) содержит минералогические коллекции со времени Петра Первого до дней Великой Отечественной войны.

Палеонтологический музей Академии Наук СССР (Б. Калужская, 14) содержит знаменитую Северо-Двинскую коллекцию верхнепермских земноводных и пресмыкающихся.

По окончании экскурсий № 3 и № 4 желающие посещают Парк Культуры и Отдыха им. А. М. Горького. Осмотр Выставки трофейного вооружения.

Экскурсия № 5

Институт физических проблем (Калужское шоссе, 32).

Директор — академик П. Л. Капица.

Экскурсия № 6

Физический институт им. П. Н. Лебедева (3-я Миусская, 3).

Директор — академик С. И. Вавилов.

Экскурсия № 7

Институт органической химии (Б. Калужская, 31).

Директор — академик А. Н. Несмеянов.

Экскурсия № 8

Институт общей и неорганической химии (Б. Калужская, 31).

Директор — академик И. И. Черняев.

Экскурсия № 9

19 июня Институт химической физики в процессе
Вторник стройки (Воробьевское шоссе, 2).
11—16 часов Директор — академик Н. Н. Семенов.

Экскурсия № 10

Институт биохимии им. А. Н. Баха (Б. Калужская, 33).

Директор — академик А. Н. Бах.

Экскурсия № 11

Институт цитологии, гистологии и эмбриологии (ул. Обука, 6).

Директор — академик А. А. Заварзин

Экскурсия № 12

11-4:00 { Почвенный институт им. В. В. Докучаева (Пыжевский пер., 7).

Директор — академик Л. И. Прасолов.

Экскурсия № 13

Энергетический институт им. Г. М. Кржижановского (Б. Калужская, 19).

Директор — академик Г. М. Кржижановский.

Экскурсия № 14

Выставка книг изданий Академии Наук СССР за 220 лет.

Директор — Д. Д. Иванов.

В помещении Фундаментальной библиотеки общественных наук Академии Наук СССР (ул. Фрунзе, д. 11).

Примечание. Выставка открыта ежедневно от 10 до 18 часов.

Экскурсия № 15

Институт права (ул. Фрунзе, 10).
Директор — академик И. П. Трайнин.

Участники экскурсий № 3—15 собираются в Доме ученых в 10 час. 30 мин.

Экскурсия № 16

21 июня Канал Волга — Москва.

Четверг Поездка на теплоходе.

9—21 час. Канал соединяет столицу с главнейшей водной магистралью страны (имеет первоклассные шлюзы).

Сбор участников в вестибюле гостиницы «Москва» в 8 часов.

Экскурсия № 17

21—22 июня

Четверг Музей-усадьба Ясная Поляна (в 2½ км
и Пятница от станции Ясная Поляна, близ Тулы).

Ясная Поляна — усадьба, где родился Л. Н. Толстой, прожил 70 лет и похоронен. Здесь написано большинство его произведений.

Сбор в вестибюле гостиницы
«Москва» 21 июня в 22 ча-
са 30 мин.

Экскурсия № 18

21 июня Музей Восточных культур (ул. Обу-
Четверг ха, 16) — собрание художественных
11—14 часов произведений Китая, Японии, Ирана,
Турции, Тибета и Советского Востока
(народов Средней Азии и Закавказья).

Сбор в вестибюле гостиницы
«Москва» в 10 час. 30 мин.

Экскурсия № 19

23 июня Третьяковская галерея (Лаврушинский
Суббота пер., 10) — собрание художественных
10—14 часов произведений (живопись, скульптура и
графика) русских и советских мастеров
искусства.

Участники экскурсии собираются в вестибюле гостиницы
«Москва» в 10 час. 30 мин.

Экскурсия № 20

23 июня Московский университет (ул. Герцена, 11).
Суббота Старейший университет России, создан-
10 — 14 час. ный Ломоносовым в 1755 году.

Участники экскурсии собираются в вестибюле гостиницы «Москва» в 10 час. 30 мин.

Экскурсия № 21

Дом и Музей Красной Армии (площадь Коммуны).

Участники экскурсии собираются в вестибюле гостиницы «Москва» в 10 час. 30 мин.

На все экскурсии производится предварительная запись в Бюро приема и обслуживания. Запись прекращается за день до экскурсии. На экскурсии № 16 и 17 запись принимается до 20 июня. Просьба ко всем участникам Сессии записываться заблаговременно.

16 июня в фойе Большого театра Союза ССР, 17-го июня в фойе Колонного зала Дома Союзов и в последующие дни в Доме ученых открываются выставки художественных фотопортретов академиков (работы Г. М. Вейль).



ЛЕНИНГРАД



Экскурсия № 1

25 июня Осмотр выставки «Оборона Ленинграда».
Понедельник
13—18 часов

Сбор в Академии Наук в
14 час. (Университетская
набер., д. 5).

По окончании экскурсии —
осмотр города по маршруту:
Адмиралтейство, памятник
Петру I, Зимний дворец и
площадь, Исаакиевский со-
бор, Марсово поле и памят-
ник жертвам Революции,
Петропавловская крепость,
Казанский собор и памят-
ники Кутузову и Барклаю
де Толли.

Экскурсия № 2

26 июня Ботанический институт им. В. Л. Комарова (ул. проф. Попова (Песочная), 2).
Вторник
10—17 часов Директор — член-корреспондент АН СССР
Б. К. Шишкин.

Экскурсия № 3

Музей Зоологического института Академии Наук СССР, основание которого положено зоологическими коллекциями Кунсткамеры Петра I; Музей включает богатейшее собрание по фауне Советского Союза (В. О., Пушкинский проезд, 1).

Директор — академик Е. Н. Павловский.

Экскурсия № 4

Музей антропологии и этнографии Института этнографии Академии Наук СССР (Университетская наб., 3).

Директор — профессор С. П. Толстов.

Экскурсия № 5

Библиотека Академии Наук СССР (В. О., Биржевая ул., 1).

Директор — доктор исторических наук
И. И. Яковкин.

Выставка изданий Академии Наук редких
книг и рукописей Библиотеки.

Экскурсия № 6

Физико-технический институт (Соснов-
ка, 2).

Директор — академик А. Ф. Иоффе.

Экскурсия № 7

27 июня

Среда

11 часов

Осмотр достопримечательностей в окрест-
ностях Ленинграда: Пулковое, Пав-
ловск, Пушкино, Петродворец.

Сбор в Академии Наук (Уни-
верситетская наб., 5) в
10 час. 30 мин.

Экскурсия № 8

28 июня

Четверг

13—16 часов

Осмотр Института эволюционной физиоло-
гии и патологии им. И. П. Павлова.
Директор — академик Л. А. Орбели
(бывш. Биологическая станция в Кол-
тушах, село Павлово).

Сбор в Академии Наук (Уни-
верситетская наб., 5) в
10 час. 30 мин.







ПРОГРАММА
ЮБИЛЕЙНОЙ СЕССИИ
АКАДЕМИИ НАУК
СОЮЗА ССР



*15-28 июня 1945г.
Москва-Ленинград*



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PROGRAMME
OF THE 220th ANNIVERSARY SESSION OF THE ACADEMY
OF SCIENCES OF THE USSR

June 15th—28th 1945

MOSCOW

June 15th 1 p. m. to 3 p. m.

and 8 p. m. to 10 p. m.

RECEPTION OF THE PARTICIPANTS OF THE ANNIVERSARY SESSION BY
THE PRESIDUM OF THE ACADEMY OF SCIENCES OF THE USSR

To be held at the seat of the Presidium of the Academy of Sciences of the USSR
(Bolshaya Kalouzskaya, 14)

June 16th 13 p. m.

CELEBRATION MEETING

To be held at the Bolshoi Opera House of the USSR

1. Address by V. L. KOMAROV, Member of the Academy, President of the Academy of Sciences of the USSR
2. Speech by N. G. BROUEVITSCH, Member of the Academy, Secretary of the Academy of Sciences of the USSR
3. Report by V. A. OBRUCHEV, Member of the Academy, "The Activity of the Academy of Sciences in the Field of Geological and Geographical Exploration of the Soviet Union"

Messages of Greeting

"1812", Overture by TCHAIKOVSKY

Played by the Orchestra of the Bolshoi Opera House of the USSR

June 17th from 11 a. m. to 4 p. m.

Visits to Scientific Institutions and Historical Monuments of Moscow

1725

CCXX

1945

MOSCOW

June 17th 7 p. m.

CELEBRATION MEETING

To be held at the House of Unions

1. Report by *N. D. ZELINSKY*, Member of the Academy, "The Rôle of the Academy of Sciences in the Progress of Organic Chemistry"
2. Report by *B. N. DELAUNAY*, Corresponding Member of the Academy of Sciences, "P. L. Chebichev and the Russian School in Mathematics"
3. Report by *B. N. IOURIEV*, Member of the Academy, "The Soviet School in Aerodynamics and the Academy of Sciences"

Messages of Greeting

June 18th 11 a. m. and 12

SITTINGS OF THE SECTIONS OF THE ACADEMY OF SCIENCES OF THE USSR

June 18th 7.30 p. m.

Opera "*Ivan Susanin*" by *Glinka*, at the Bolshoi Opera House

June 19th 11 a. m. to 4 p. m.

Visits to Exhibitions and Research Institutes of the Academy of Sciences
of the USSR

June 19th 7.30 p. m.

"*The Last Sacrifice*" by *A. Ostrovsky*, at the Moscow Art Theatre

June 20th 10 a. m. to 3 p. m.

Visits to Research Institutions and Museums in Moscow

Departure for Leningrad

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PROGRAMME
OF THE 220 th ANNIVERSARY SESSION OF THE ACADEMY
OF SCIENCES OF THE USSR

June 15 th—29 th 1945

MOSCOW

June 15 th 1 p. m. to 3 p. m.
and 8 p. m. to 10 p. m.

RECEPTION OF THE PARTICIPANTS OF THE ANNIVERSARY SESSION BY
PRESIDIUM OF THE AKADEMY OF SCIENCES OF THE USSR

To be held at the seat of the Presidium of the Academy of Sciences of the USSR
(Bolshaya Kalouzskaya, 14)

June 16 th 1 p. m.

CELEBRATION MEETING

To be held at the Bolshoi Opera House of the USSR

Address by V. L. KOMAROV, Member of the Academy, President of the
Academy of Sciences of the USSR

Speech by N. G. BROUEVITSCN, Member of the Academy, Secretary
of the Academy of Sciences of the USSR

3. Report by V. A. OBRUCHEV, Member of the Academy, "The Activity
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"*The Last Sacrifice*" by *A. Ostrovsky*, at the Moscow Art Theatre

June 20th 12

SITTINGS OF THE SECTIONS OF THE ACADEMY OF SCIENCES OF THE USSR

MOSCOW

June 20th 7.30 p. m.

"People of Stalingrad" by Chepurin, at the Red Army Theatre

June 21th and 22nd 9 a. m.

Excursions in the Moscow district and to the Leo Tolstoi Country-house-Museum in Yasnaya Polyana

June 23rd 10 a. m. to 5 p. m.

Visits to Research Institutions and Museums in Moscow

June 24th

Departure for Leningrad

LENINGRAD

June 25th

Arrival to Leningrad

June 25th 1 p. m. to 4 p. m.

Sightseeing

June 26th 10 a. m. to 5 p. m.

Visits to Exhibitions and Research Institutes of the Academy of Sciences and to Historical Monuments of Leningrad

June 26th 6 p. m.

CELEBRATION MEETING

To be held at the Concert Hall of the State Philharmony

1. Address by V. L. KOMAROV, President of the Academy of Sciences of the USSR
2. Report by L. A. ORBELI, Member of the Academy, "Ivan Pavlov and the Russian School in Physiology"
3. Report by I. I. MEŠČANINOV, Member of the Academy, "A New Theory in Linguistics"

Messages of Greeting

1725

CCXX

1945

LENINGRAD

June 27th 11 a. m.

Sightseeing in Leningrad and the suburbs

June 27th 7.30 p. m.

"Swan Lake", ballet by Tchaikovsky, at the Leningrad Opera House

June 28th 12 to 4 p. m.

Visit to the Pavlov Institute of Evolutionary Physiology and Pathology
at Pavlovo (Koltushi)

Return to Moscow

MOSCOW

June 29th

Arrival to Moscow

June 29th 7.30 p. m.

FAREWELL CONCERT

At the Bolshoi Opera House of the USSR

Uolbs — 2:30 June 30.

1725

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1945

LENINGRAD

June 21st

Arrival to Leningrad

June 21st 1 p. m. to 4 p. m.

Sightseeing

June 21st 6 p. m.

CELEBRATION MEETING

To be held at the Concert Hall of the State Philharmonic

1. Address by V. L. KOMAROV, President of the Academy of Sciences of the USSR
2. Report by L. A. ORBELI, Member of the Academy, "Ivan Pavlov and the Russian School in Physiology"
3. Report by I. I. MEŠČANINOV, Member of the Academy, "A New Theory in Linguistics"

Messages of Greeting

June 22nd 10 a. m. to 5 p. m.

Visits to Exhibitions and Research Institutes of the Academy of Sciences and to Historical Monuments of Leningrad

June 22nd 7.30 p. m.

"Swan Lake", ballet by Tchaikovsky, at the Leningrad Opera House

June 23rd 11 a. m.

Sightseeing in Leningrad and the suburbs

June 24th 12 to 16 p. m.

Visit to the Pavlov Institute of Evolutionary Physiology and Pathology at Pavlovo (Koltushi)

Return to Moscow

1725

CCXX

1945

MOSCOW

June 25th

Arrival in Moscow

June 25th 7.30 p. m.

"People of Stalingrad" by Chepurin, at the Red Army Theatre

June 26th and 27th 9 a. m.

Excursions in the Moscow district and to the Leo Tolstoi Country-house-Museum in Yasnaya Polyana

June 27th 7.30 p. m.

FAREWELL CONCERT

At the Bolshoi Opera House of the USSR

*29 re
Arrived Moscow
Evening last concert*



АКАДЕМИЯ НАУК
СОЮЗА ССР



THE POLITICAL WEEK

By OBSERVER

Jubilee Of Science

THE SOVIET people are now celebrating the 220th anniversary of the Academy of Sciences of the USSR. Scientists from all parts of the Soviet Union and from abroad have come to Moscow to participate in the Academy's jubilee session.

Founded by Peter I, the great reformer of Russia, the Academy has grown and developed through the centuries, enriching Russian culture and science and making valuable contributions to the treasure store of world knowledge and learning. The Academy, and science in general in our country, have taken the biggest strides forward in the period since the peoples of Russia took their destiny into their own hands. During these years science has really become the property of the people. From the first days of the existence of the Soviet state, Lenin, its great founder, devoted great attention to the Academy. As for Stalin, the interest he takes in the Academy and its work is common knowledge.

The Soviet revolution emancipated the nations of tsarist Russia and opened wide vistas for the development of their culture. The mighty stream of Russian science, which has always had a powerful influence on the cultural development of the non-Russian fraternal Soviet peoples, is being joined by torrents of newly-tapped creative forces. Soviet science made a particularly magnificent showing during the war. It is not by chance that Stalin has paid eloquent tribute to the intelligentsia for their role in the struggle for the freedom, independence and honor of our country.

The jubilee session of the Academy of Sciences follows the celebration of the historic victory over fascist Germany. Acclaiming their scientists, Soviet people are confident that the general staff of Soviet science will contribute as generously to post-war development, further increasing the might of our country, as it did to the attainment of victory.

While enriching the Soviet people, the scientific achievements of the Academy also enrich mankind. This is what makes the jubilee of Soviet science a joyous occasion for the whole scientific world. Moreover, the jubilee of the All-Union Academy of Sciences will serve further to strengthen our scientific ties with foreign countries. By so doing, it will serve to promote friendship and collaboration among the freedom-loving nations, to advance progress and culture throughout the world.

Unforgettable June 22

ONE MORE week will bring us to a historic date that will never be forgotten either by our people or by the rest of mankind. On June 22, 1941, Hitlerite Germany treacherously attacked the Soviet Union. That day marked the beginning of the titanic struggle between the Soviet people and the fascist monster.

Fascist propaganda struck an arrogant note those days. Remember Hitler's boast on Oct. 3, 1941: "Today I can say to you that the enemy is already smashed and will never recover his strength."

He repeated the same boast on Nov. 9, 1941, in Munich when he said: "If the conception 'blitzkrieg' can be applied to any campaign, it is applicable to this one in which an enemy possessing a huge empire was destroyed in a short time."

About a month later—on Dec. 11, 1941—Hitler made another declaration: "I should like to assure my opponents as well that neither the force of arms nor time can conquer us."

Piping to his master's tune, Goebbels claimed about the same time that "the return of the British to the continent is out of the question. American help is no longer a menace to us. The offensive strength of the Bolshevik ally has been smashed."

One could cite any number of similar

statements. However, these few will suffice to show how crushing has been the defeat of the fascist upstarts. They will serve also as a reminder that many outside of Germany believed these words too. Besides Hitler and Goebbels there were plenty of "prophets" who had no faith in the victory of the United Nations and who upheld the myth of the "invincibility" of the German army.

One cannot help thinking of these "prophets" today when one reads various arguments concerning the "insurmountable" obstacles that are supposed to block the organization of a durable peace and security. These arguments come from the very same people. They are not simply pessimists; they are malicious people harboring evil intentions. They pretend now to have forgotten the "prophecies" they made at the beginning of the struggle, but we shall not let them forget. We shall remind them in order to prevent their chatter from interfering with the serious business in hand.

Of course there are difficulties to be overcome. Naturally efforts have to be exerted to consolidate victory. But these efforts are only hindered by the chorus of those who cannot and will not understand the solemnity of the grim days of the war, who cannot and will not understand what is happening at the present.

It is thanks to the efforts of the freedom-loving nations, and primarily the great Allies in the war, that fascist propaganda and the wartime pessimists and ill-wishers have been forced to subside. Now efforts must be directed toward silencing those who still are singing to Goebbels' music.

Development of the past few years indicate that collaboration among the Allies is continuing in the peace as well, that the "irreconcilable differences" are being successfully overcome. The initial period after the war against Germany has not been smooth but progress is now being made at a better pace. It is important now to increase rather than slacken this pace. Whenever the hue and cry about post-war matters is raised it would do well to recall the first period of the war, for then the importance of consolidating victory, the need to eliminate the horrible ulcer that poisoned the world for so many years will be obvious to all and sundry.

More About War Criminals

THE NEWS of the arrest of Baldur von Schirach, one of the most dyed-in-the-wool Hitlerite bandits, is good news indeed. One's satisfaction at the tidings, however, is somewhat marred by the tardiness with which the trials of the fascist criminals are being organized. More than a month has passed since the war in Europe ended, but little progress has been made in this respect. Delays of this kind encourage the advocates of fascism and fill them with hope of witnessing a repetition of what happened after the first world war, when the criminals escaped punishment thanks to endless manipulations in legal procedure.

The world press has drawn attention repeatedly to the undignified farce of which Laval is the hero. Although he was already reported to have been sent to French territory, it turns out that he is still in Spain bargaining and giving interviews and trying to "make up his mind" whether to go to France or not.

This traitor and criminal whose name is scorned not only by the French people but by all progressive mankind is actually making a mock of justice, feeling secure under Franco's wing. It seems indeed that the hand of justice is powerless to reach out and grasp the scoundrel.

It need hardly be said that such a state of affairs not only evokes the indignation of world public opinion, but gives rise to misgivings with regard to the manner in which the important business of punishing the Hitlerite chiefs and their accomplices is being handled.

Message of President Truman To Marshal J. V. Stalin

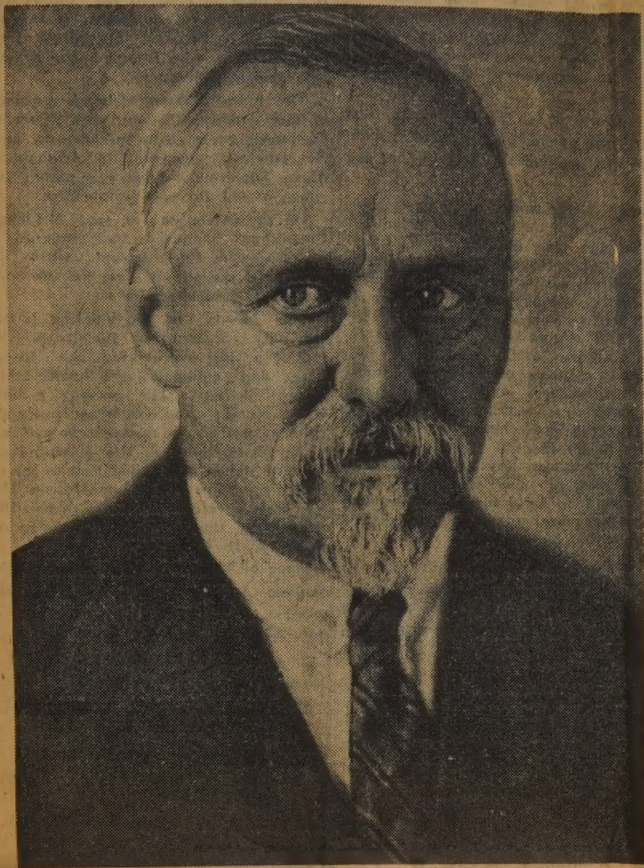
Please accept from me and on behalf of the Government of the United States appreciation of your kind message of June 12.

I have every confidence that the continuation in the future of our friendly cooperation will meet with the same success in preserving peace and international good will as did our common effort in the war against the Nazis.

I am looking forward with much pleasure to meeting you in the near future and discussing fully our common problems.

Presidium of Supreme Soviet of USSR Ratifies USSR-Yugoslav Treaty

On June 15, 1945, the Presidium of the Supreme Soviet of the USSR ratified the Treaty on Friendship, Mutual Assistance and Post-War Collaboration between the Union of Soviet Socialist Republics and Yugoslavia signed in Moscow on April 11, 1945.



HERO OF SOCIALIST LABOR VLADIMIR L. KOMAROV, President of the USSR Academy of Sciences

Greetings From V. L. Komarov

On this ceremonial occasion of the opening of the jubilee session of our Academy of Sciences, which is celebrating its 220th anniversary of service in the cause of progress, I would like to address a few words of greeting to you.

Representatives of advanced sciences have now assembled here in Moscow, the heart of the Soviet Union, from all the corners of the globe. It is with joy and pride that we Soviet scientists see among us today leading investigators in all fields of learning from the United States and Great Britain, from France and Yugoslavia, from Poland and Canada—one cannot enumerate here all the countries, all the nations, that have sent their delegates to this first post-war international congregation of men of science.

The thunder of the guns has died down in liberated Europe. The heroic struggle waged by the Red Army and her Allies has overthrown the enemy of freedom and culture. Broad vistas of education, happiness and free labor have opened up before the nations.

The researchers and thinkers who have come from the various democratic countries to attend this festival of Soviet science speak different languages, but they all serve a common cause: the progress of mankind and a happy future.

May these days in which we are united in the capital of the free Soviet land strengthen our friendship and consolidate the indivisible alliance of men whose life-work is to serve mankind and its peaceful and happy development.

VLADIMIR KOMAROV—President of USSR Academy of Sciences

By G. SHAKHOV

IT HAS BEEN Vladimir Komarov's good fortune to be the most popular of all the Presidents the Academy of Sciences has had throughout the 220 years of its existence. For the millions of Soviet men and women his name is associated with the upbuilding of the new life in our country, and they hold him in high esteem as a man whose whole life has been devoted to serving the people.

It is enough to scan the titles of his numerous works to see that the Soviet Union's No. 1 botanist has directed all his studies and researches toward a single goal—the utilization of every scientific achievement to satisfy the needs of man.

While traveling in the Far East in the 90's of last century, Komarov, then a young scientist, conceived the idea of cultivating for practical purposes the wild plants he found there.

"The next task in line is to augment the number of cultivated plants we have by raising the useful plants that now grow wild in our country," he wrote at a later period. "Diversity of crops is a guarantee of success in agriculture and to increase their number is an urgent task confronting all countries. It is to be hoped that hundreds of new varieties of berries and fruits, as well as medicinal herbs and other useful plants to be found in our country, will be made practical use of."

Recommending Vladimir Komarov for membership in the Academy of Sciences in 1920, three eminent Russian scientists wrote: "V. L. Komarov can be considered one of the most active, talented and most highly educated of our botanists in the sphere of systematization and geographical distribution of plant life in general and is unquestionably the greatest authority on the flora of Asia."

They might have added that Komarov was one of those scientists who do not hold themselves aloof from life but for whom life and the people and the part science plays in human life make up the raison d'être of their endeavors. This trait

Jubilee Session of Academy Of Sciences Opens Today

Scientists of Many Lands Meet at Reception

By Moscow News Staff Correspondent

THE MAGNIFICENT halls of the mansion of the Presidium of the Academy of Sciences of the USSR in Moscow echoed to greetings in many tongues yesterday afternoon and evening as arrivals for the jubilee session were received by Academy Vice-Presidents Leon Orbeli, Vyacheslav Volgin and Ivan Bardin and later by President Komarov himself.

The session in honor of the Academy's 220th anniversary opens at one o'clock this afternoon in the Bolshoi Theater. Attending will be more than 1,200 persons. On the program of the opening meeting are an introductory address by President Vladimir Komarov, a review of the Academy's history by Secretary Brudevich and a report by Academician Vladimir Obruchev, one of the oldest members, on achievements in geology and geography.

Two shifts of receptions had to be arranged at the mansion yesterday for the numerous guests from all parts of the globe. The afternoon was reserved chiefly for representatives of the physico-mathematical sciences, and the evening for specialists in biology and humanities.

OLD FRIENDS MEET

I saw scientists from many lands joyously greet old friends they had not seen during the long years of war. Others finally made the personal acquaintance of men whose written works they had long been following.

In one of the many animated clusters was the Astronomer Royal Sir Harold Spencer Jones, F.R.S., surrounded by a group of Soviet astronomers. Here, among others, were Grigori Neumin, director of the Pulkovo Observatory, Alexander Mikhailov, Chairman of the Academy's Astronomical Council, and Victor Ambartsumyan, Vice-President of the Armenian Academy of Sciences. "How's work getting on at Greenwich?" "When will you rebuild Pulkovo?" and "Tell us about your plans for observing stations I heard."

The Joliot-Curies were in the center of a large group of Soviet physicists. The foreign guests were asked about the fate of this or that colleague during German occupation. Recent work and research plans were discussed.

Professor Vezir-Zade of the Azerbaijan Industrial Institute astonished the Frenchmen by his excellent knowledge of their language. And Soviet scientists were pleased to hear Russian spoken by Professor Nicole, assistant to Langevin, that great friend of the Soviet Union whom we do not have the honor of now greeting, for the doctors forbade him to travel by air. "I study Russian in my laboratory every morning," Professor Nicole said. "Indeed, it's the greatest language in the world!"

The professor heartily greeted Academician Peter Kapitza, for whom he brought a book with an inscription by Langevin: "To my dear Kapitza in remembrance of numerous meetings and in the hope of still more numerous ones."

The great physicist also sent a book as a gift to President Komarov. The inscription reads: "As an excuse for my involuntary absence and in the hope of a speedy meeting."

Professor Dmitri Mikhalev, President of the Bulgarian Academy of Sciences, and Naïden Nikolev, Chairman of the Bulgarian Slav Committee and the Court of Appeals of Bulgaria, asked me to introduce them to President Alexander Bogomolets of the Ukrainian Academy. "Your book on longevity has been published in Bulgaria and is highly popular," they told him.

Vice-President Orbeli heartily greeted a group of guests from the Mongolian People's Republic. These were the geologist Dugersurun, the historian Shirekdyb and the writer Tinchin, members of the Mongolian Scientific Committee. They were impatiently awaiting the opening of the session proceedings, the special reports at the section meetings, they said.

Dr. Henry Field of Washington, the anthropologist and archeologist, I found engaged in an animated conversation with Academician Ignati Krachkovsky, the specialist on the Arabian East. Doctor Field was telling about his four-day trip to the USSR and his two-hour stay-over in Baku. Those two hours were made unforgettable by the representatives of the young Azerbaijan Academy of Sciences.

BRIGHT GOWNS

The bright gowns of some of the British and American guests were a vivid contrast to the majority in dark evening dress. I saw Professor F. G. Donnan, F.R.S., representative of the London Chemical Society, in his colorful gown of Scotland's St. Andrews University, clink glasses with President Vessin of the Academy of Architecture of the USSR, who recently received a Gold Medal of the Royal Architectural Institute from King George.

Professor E. N. da C. Andrada, in the red and yellow gown of the physics department of London University, was exchanging recent bits of scientific news with Academician Joffe and two colleagues from Sweden.

Perhaps the most interesting of all the meetings was the one of Professor Cyril N. Hinselwood, F.R.S., with Academician Semenov. Working in the same field of chain reactions in physical chemistry, they have known of one another for 18 years. Professor Hinselwood even wrote a preface for one of Semenov's books. And this was the first time they actually met.

At the evening reception President Komarov himself greeted the guests. For each the venerable scientist had a special word of welcome and friendly wish.

I heard him converse with Rector Vladimir Nedelkovic, of Belgrade University. "In what condition is your university and the other universities of Yugoslavia?" he asked. When he was told of the Nazi wrecking he exclaimed: "The Germans must pay for the destruction of your scientific centers! Let them foot the bill for equipping laboratories! They knew how to destroy—now let them pay!" The President promised the Serbian scientists the aid of Russian science.

Soviet scientists stepped aside to make room for the foreign guests. Mexicans, Poles and Canadians came up to congratulate the President on his "birthday" and to thank him for the fine welcome they have received here.

'INDISPENSABLE BOOK'

The botanists were happy to have the opportunity of personally expressing their admiration of his work. "We in Canada use your 'Flora of the USSR' daily. It is a handbook," said the Canadian botanist E. Porsild. "We hardly know Russian, in which it is written, but the large number of Latin names of plants, many of which closely resemble Canadian varieties, help us understand this book and make it indispensable."

Among a group of eminent British scientists who came up to greet the President I saw Sir Robert Robinson, F.R.S., Vice-President of the Royal Society. Then there was Joseph Needham, the founder of the new science of embryology, who in wartime has interrupted research to help China develop her science. He had just made a long trip to Moscow from China, but he did not regret it the slightest, judging from his animated conversation with Professor

(Continued on Page 4)

(Continued on Page 4)

220th Anniversary of Academy of Sciences

Metallurgists Occupy Honored Place in Russian Science

By IVAN BARDIN

Vice-President of Academy of Sciences of USSR, Hero of Socialist Labor

METALLURGISTS occupy a place of honor at the 220th anniversary celebration of the Academy of Sciences. Their names figure prominently in the recent honors lists of men and women of Soviet science. High decorations have been conferred on them for their work in promoting metallurgy in peace and in war.

Looking back into history, we must give due credit to the scientists whose work built a sound theoretical basis for Russian metallurgy. Exceptional services were rendered by Mikhail Lomonosov, that genius of the 18th century. Lomonosov applied the achievements of his day to this field; he wrote the first scientific textbook on metallurgy; he laid down the fundamentals of quantitative and qualitative analysis; he anticipated the hydrodynamic theory of gas flow which is so important in designing metallurgical furnaces.

After Lomonosov the Academy went counter to the ideas of Peter I, its founder, and for a long time engaged primarily in abstract science. Hence we find that a number of important researches influencing the development of metallurgy were conducted outside its walls. Among these are the brilliant investigations of Musin-Pushkin, Sobolevsky, Lyubarsky, Bagration and others which won world recognition.

VITAL CONTRIBUTIONS

A triumph for Russian science was the work carried out in the second half of the 19th century by Mendeleev and Chernov. Mendeleev, discoverer of the periodic law of elements and father of new chemical theories, not only shed bright light on the nature of the physico-chemical processes in metallurgy but devoted a great deal of energy to solving key practical and economical problems for the Russian metals industry.

Chernov's discoveries gave world science a cornerstone in theoretical metallurgy. His work was of tremendous importance for the development of steel production, and particularly high-grade steels.

The gap between the Academy of Sciences and the technical sciences has been bridged in Soviet times, when a conscious, planned coordination of theoretical interests with satisfaction of the vital demands of the people has been instituted. In pursuance of a Government decision, a Section of Technical Sciences was established in the Academy in 1932. This set up a framework for fruitful collaboration between theory and practice. Since that time the Academy has conducted work in close contact with people's commissariats, industrial research organizations and factory laboratories. In the Academy itself there were established institutes of metallurgy, mining, power, fuel, etc. These institutes set to work on problems whose solution required application of the latest theoretical discoveries.

SWIFT EXPANSION

During the two Stalin five-year plans in the 30's the iron and steel industry grew to a size four times as large as it had been in 1913. It was reconstructed from top to bottom. It mastered the production of many special steels and learned to meet the most exacting demands of the engineering and defense industries.

A good share of the credit for these achievements goes to the following members of the Academy: N. Kurnakov, who made a major contribution to the physico-chemical fundamentals of metallurgy; A. Baikov, who evolved an original theory of metallurgical processes that promoted development of the non-ferrous metals industry and the manufacture of special steels; M. Pavlov, one of the world's biggest blast furnace specialists; N. Chizhevsky, for his work on obtaining quality fuel from low-grade coal; N. Gudsos, outstanding expert on special steels; E. Britske, who made a valuable contribution in the smelting of ores containing titanium and vanadium, and many, many others.

Soviet metallurgists are deeply grate-

ful to Soviet geologists, whose investigations of little-studied areas in the interior of the country resulted in an eastern raw material base for the development of iron and steel and non-ferrous metals production. This was highly important in achieving victory over the Hitlerite brigands. Outstanding among Soviet geologists is Academician V. Gubarev, Hero of Socialist Labor, known for his investigations of the natural wealth of Siberia.

In wartime the entire staff of the Academy, from the President to laboratory worker, engaged in all-out effort for the solution of war and economic problems. In their own laboratories and in the laboratories of industrial institutes, in factory shops, in the people's commissariats and in a number of commissions—especially the commission for the mobilization of resources for defense—the Academy staff helped equip the valorous Red Army with all the requisites for victory. They helped solve involved problems connected with transferring the metallurgical industry from the German-occupied districts to the East, found new types of raw materials to replace those temporarily lost, promoted the large-scale production of alloy steels in shops built for ordinary steels, and so on and so forth. They were able to do so much in wartime because in the years of peace they had succeeded, at the call of J. V. Stalin, in linking up their scientific interests and scientific work with the urgent demands of their country and their people.

Excerpts From Speeches by J. V. STALIN

Comrades, permit me to propose a toast to science and its progress and to the health of the men of science.

To the progress of science, of that science which does not fence itself off from the people and does not hold aloof from them, but which is prepared to serve the people and to transmit to them all the benefits of science, and which does not serve the people under compulsion, but voluntarily and willingly.

To the progress of science, of that science which will not permit its old and recognized leaders snugly to invest themselves in the robe of high priests and monopolists of science; which understands the meaning, significance and omnipotence of an alliance between the old scientists and the young scientists; which voluntarily and willingly throws open every door of science to the young forces of our country, and affords them the opportunity of scaling the peaks of science, and which recognizes that the future belongs to the young scientists.

To the progress of science, of that science whose devotees, while understanding the power and significance of the established scientific traditions and ably utilizing them in the interests of science, are nevertheless not willing to be slaves of these traditions; the science which has the courage and determination to smash the old traditions, standards and views when they become antiquated and begin to act as a fetter on progress, and which is able to create new traditions, new standards and new views.

—From speech delivered at a reception in the Kremlin to higher educational workers, May 17, 1938.

The Soviet intelligentsia is working with devotion for the defense of our country, constantly improving the armaments of the Red Army, technology and organization of production. It is helping the workers and collective farmers to expand industry and agriculture, promoting Soviet science and culture in the conditions of war.

This does credit to OUR INTELLIGENTSIA.

—From report delivered on Nov. 6, 1943.

Our intelligentsia is striking out boldly in the field of technical and cultural innovation, successfully promoting modern science and displaying the creative spirit in applying its achievements to the production of munitions for the Red Army. By its creative work the Soviet intelligentsia has made an invaluable contribution to the enemy's defeat.

—From report delivered on Nov. 6, 1944.

Union of Science and Industry

By Moscow News Economic Correspondent

THE SOVIET UNION is now summing up the war and honoring its war heroes. A little while ago Red Army commanders were awarded the Order of Victory; the other day a number of the most eminent scientists of our country who had been honored with the title of Hero of Socialist Labor received their decorations.

I see a direct connection between these two events. I think it is most appropriate that the names of Academicians Komarov, Bardin and Lysenko should appear in the honors lists side by side with those of Marshals Zhukov, Konev and Rokossovsky, for science too played its role in the titanic struggle to save world civilization from destruction by Hitlerite barbarism. Perhaps never before did science respond so readily and unreservedly to the needs and dictates of everyday life as during the war against fascist Germany.

UNITY OF PURPOSE

Indeed, there is no precedent for the unity of purpose that links Soviet scientists with the Soviet state, for in our country scientists regard it as their duty to share the responsibility for the destinies of the state.

This sense of duty was eloquently manifested already during the very first months of the war. The German armies had cut deep into the country and a deadly menace hung over such decisive branches of industry as iron and steel and coal. Donbas was temporarily lost and war industry was threatened with a shortage of raw material. At this critical time scientists pitched into intensive work to survey and open up natural resources of the Urals, Siberia, Kazakhstan and Uzbekistan. This wartime prospecting unearthed tremendous deposits of bauxites in the Northern Urals—and they

saved the situation for the aluminum industry. Manganese was found in Kazakhstan—it helped the iron and steel industry out of a tight spot. Mercury was discovered in Kirghizia and its extraction organized on a scale exceeding pre-war production. Development of a new coal field was pushed in Uzbekistan. All in all, the raw material wealth of the eastern areas insured the uninterrupted operation of the Soviet Union's war industry as a whole.

Scientists worked side by side with engineers on the job. They concentrated their efforts on promoting the production of aircraft, tanks, guns, explosives, ammunition and war vessels.

AID AIR FORCE

Academician Christianovich made important discoveries in aerodynamics. Academician Mikulin designed a new type of engine, and corresponding members Yakovlev and Ilyushin built new types of fighters and assault bombers that won supremacy in the air from the Luftwaffe.

Academician Paton directed his efforts at intensifying the production of tanks. A pre-war invention of his—an automatic method of electric welding—was successfully used in the manufacture of tanks. The seams in armor welded in this manner proved to be invulnerable to German armor-piercing shells.

Academician Bardin headed scientific

research and engineering work in the iron and steel industry. Scientists and engineers found new methods of producing high-grade steels in large open-hearth furnaces. In the course of the war Europe's biggest blast furnaces equipped with the last word in technique were built in the USSR. In this field invaluable were the findings made by Academician Pavlov.

Academician Kapitz's work on improved methods of producing oxygen found industrial application during the war, and the oxygen industry is now rising as a branch of industry in its own right under the scientist's direction.

Agricultural scientists raised crop yields and found ways and means of adapting plants that formerly were cultivated only in southwestern USSR to the conditions of the eastern part of the country. Thanks to Academician Lysenko's work, hundreds of state farms and tens of thousands of collective farms began to apply the latest achievements of science in quick order. It goes without saying, of course, that the fact that the Soviet Union has the world's largest scale agriculture played an important part in this connection. Moreover, scientists take part in the compilation of the annual agricultural plans which in the USSR have the force of law and make the most important scientific farming measures obligatory for all farms.

The services of Soviet medical men can hardly be overestimated either. Academicians Burdenko, Orbeli and Bogomolets as well as other scientists were able to speed up the recovery of wounded Red Army men. No other army in the world has achieved as high a percentage of

(Continued on Page 4)

Can Science Be Planned?

Experience Shows Planned Research Produces Greatest Results

By A. JOFFE

Member, Academy of Sciences of USSR

CAN SCIENTIFIC research be planned? This question has long evoked heated argument and still continues to do so abroad. There are people who claim that the fulfillment of any plan is incompatible with the private initiative of the scientist, that science aiming at the solution of practical problems in industry, agriculture, transport or defense delays the treatment of deeply theoretical problems which promise nothing in the way of practical results in the immediate future. Yet the experience of science in the Soviet Union shows that these and other contradictions advanced by the opponents of state participation in the guidance of scientific endeavor are purely imaginary and disappear upon closer scrutiny.

ESSENTIAL MEANS

More than that, it will be seen that the planning of scientific research is not only possible but also essential if science is to play the maximum role in the advancement of culture, economy and the living standards of the people. Inasmuch as the aim of the Soviet state is to promote the speediest possible growth of knowledge, of the national economy and popular prosperity, it cannot but regard the pace of scientific development a matter of first-rate importance. Hence the all-out aid the Soviet Government renders scientists and the interest both the government and the people display in the direction and objectives of scientific investigation.

It would be a mistake to think, however, that the same methods of planning are applicable to science as to, say, the rationing of foodstuffs in wartime or industrial planning. In a factory you have the capacity of the machinery and the number of workers to go by, in creative scientific work you do not have the same concrete indices to base a plan on. As a matter of fact, if a scientist could tell exactly what he is going to discover in the future there would be no need either for a plan or for research as such.

A plan in science is only a guide to the researcher as to where to begin and what to aim for. There can be no question of its fulfillment the way a factory fulfills its plan; a scientist does not work for the plan but the plan is called upon to help the scientist by making it possible to employ the available material and personnel resources with maximum efficacy. It happens sometimes that in the course of a research undertaking a scientist discovers facts that run counter to his expectations and make it necessary to alter the original aims and intentions or perhaps abandon them completely. In such cases even the entire line of the researcher's work may be changed regardless of the fact that his plan was approved and filed away by the Academy. Since the range of scientific quests is not determined by the pecuniary interests of the manufacturer but by the require-

ments of the nation which embrace every imaginable field of endeavor, there is really nothing to hamper the scientist's initiative.

As an illustration I can cite an experience of my own. This happened in May 1930, at a time when our country was still comparatively poor and all efforts and means were directed at the fulfillment of the First Five-Year Plan. My colleagues at the institute and myself thought that it was essential to begin work on the atomic nucleus. We were worried, however, because it was the middle of the year when the appropriations for our work had already been made and the new researches we outlined required an additional expenditure of several hundred thousand rubles. I went to Sergo Orjonikidze, who was chairman of the Supreme Council of National Economy, put the matter before him, and in literally 10 minutes left his office with an order signed by him to assign the sum I had requested to the institute. Once started, we have continued work on the atomic nucleus for 15 years as an essential part of our plan.

The only category of researcher discouraged by the very existence of a plan is the researcher for his own enjoyment only. But even for those who are doing their work for themselves, neglecting the benefit of their contemporaries, and perhaps even succeeding generations, some place is always left in the general plan. We require, however, the result to be reported and published if it turns out to be of some importance. As the late Sir W. H. Bragg put it, the scientist can hardly be proud of not being of service to anyone.

NO CONTRADICTION

Soviet science has shown there is no contradiction between applied science serving the immediate needs of the nation and science dealing with theoretical problems that promise nothing today except advancement of knowledge in general. We could hardly imagine a sound development of one of those branches isolated from another. By now it is clear to everyone how great a role our scientists played in securing victory over Hitlerite Germany by rendering direct aid to the army and war industry; yet even during the war many researchers were awarded Stalin Prizes for their work in fields of astronomy and mathematics far removed from the practical needs of the moment.

Planning of scientific work in the USSR is founded on analysis of past experience and philosophic prognostication of the lines scientific development is bound to take in the future. Hence not one of us would think for a minute to exclude the treatment of theoretical problems from our plans. To do that would amount to destroying the roots of a tree that bears rich fruit. Sooner or later abstract theory will have its effect on the advancement of knowledge; by deepening our knowledge of the phenomena of nature, it helps us master and control them.

The best of the Soviet Union's scientists are working in the Academy of Sciences of the USSR and the Academies of the Union republics on key problems of theory that in the final analysis form the foundation for the development of the national economy and culture. The academic institutes maintain close ties with 1,000 specialized industrial, agricultural and other institutes working on concrete, practical problems, and with the faculties of 700 higher schools which are working on the most diverse kinds of questions arising from the development of science.

The Academy of Sciences of the USSR is the nerve center of a tremendous organism consisting of hundreds of research institutes, laboratories and universities which embrace all fields of knowledge. That an organization of this size should have a plan—or rather, that it cannot function at maximum efficiency without one—is obvious, for without a plan it would not be possible to distribute the innumerable tasks involved and the personnel required for their speediest solution among its many links and to choose the most important problems in order to assure all necessary means for their progress.

An important aspect to remember is that the biggest achievements of modern science have been made not by researchers working singly, but by teams of scientists or through the collaboration of scientists, institutes or laboratories working in allied fields. Prerequisites do not always arise of themselves for this kind of teamwork. Rational planning, on the contrary, insures them always. The successes scored by Soviet science during the war are to be explained by the fact that all of its branches were guided by a unified plan. From the very beginning of the war the constant ties between science and industry and the connecting links between the various branches of science insured the smooth operation of all parts of the complex mechanism.

Joseph Stalin, our leader in war and in peace, defined progressive science as one which stands in no awe of fetiches; boldly discards everything outdated, and is always a science for the people. Rational planning is one of the ways to achieve this goal.

—Photo by G. Shirokov



SCIENTISTS HONORED BY GOVERNMENT. This photo was taken June 14 on Red Square after an investiture in the Kremlin, where eminent Soviet scientists were presented with high awards. From left to right, first row, are: Academician V. N. Obratzov; Academician D. N. Pryanishnikov, Hero of Socialist Labor; Academician L. S. Stern; N. V. Komarova; Academician V. L. Komarov, Hero of Socialist Labor, President of the Academy of Sciences; Academician E. V. Tarle; Academician A. L. Abrikosov, Hero of Socialist Labor, and Academician N. N. Anichkov. Second row: Corresponding members B. L. Isachenko and K. A. Krug; Academician A. A. Rikhter; Academician I. M. Vinogradov, Hero of Socialist Labor; A. G. Chernov, Assistant to the President of the Academy; Academician L. A. Orbeli, Hero of Socialist Labor; Academician S. I. Vavilov; Academician E. V. Britske, and L. V. Zubov, Director of Affairs of the Academy.



READY FOR THE FIELDS. Here are some of the tractors produced by the restored Stalingrad Tractor Plant waiting to be shipped to the country's agricultural districts. —Photo by V. Yelinskaya

Introducing

Mir-Kasimov, President of Azerbaijan Academy of Sciences

By N. MILITSYNA

DURING the 25 years since it was founded the Medical Institute in Baku, the capital of Azerbaijan, has graduated almost 6,000 doctors. Most of them attended lectures in surgery by Mir Asadulla Mir-Kasimov, now President of the Azerbaijan Academy of Sciences.

Mir Asadulla's father, a teacher of Arabian philosophy, at a Moslem seminary in Baku, wanted his son to follow in his footsteps. At the beginning it seemed as if the lad would; he donned the cap and gown of the seminary pupil and plunged into a study of the Arabian classics. In childhood he learned to speak the Iranian language, and the ancient poets of Iran were his favorites.

But at the age of 13 he was seized by a new impulse: he wanted to get closer to life, to go over from the ancient sciences to the modern. Only one path led in this direction—the Russian gymnasium, as the secondary schools were then called.

The boy had a difficult time preparing for the entrance examinations, for besides new subjects he had to learn the language in which they were taught, Russian. His old friends, the poets, came to his aid. Reading translations of Firdausi's "Shah-Name" by Zhukovsky he found his beloved characters and images expressed in Russian in a way that gave him a better knowledge of the language than all the dry textbooks put together.

Still, his Russian at that time was quite weak. His answers at the oral examination merited the very lowest mark there was, but the examiner, an intelligent and kindly man, saw that the lad was deserving and passed him.

For several years Mir Asadulla attended both the Moslem school, which he could not leave out of respect for his father, and the gymnasium. The hours of study did not coincide, but there was another complication: each school demanded that the pupils wear its uniform out of class as well as inside. In the mornings the boy would leave his home—he lived with his father on the seminary grounds—in cap and gown, and in a little shop on the other side of town he changed into his gymnasium uniform. A few hours later he would re-enter the shop as a Russian gymnasium pupil and leave it a Moslem seminary student.

Fortunately the seminary course ended three years sooner than the one at the gymnasium. Otherwise it is hardly likely that he could have stood the strain of so much study, industrious and capable though he was.

After graduating from gymnasium he went to Odessa to study medicine; there were no schools of higher learning in Azerbaijan (today there are 16). When he had received his diploma, he returned to his native Baku, where he was one of a total of about five Azerbaijan doctors. There were about as many Azerbaijan engineers in pre-revolutionary Baku, and a slightly larger number of schoolteachers. There were several scientists, but they had no facilities for research. (Azerbaijan today, incidentally, has about 50 research institutions, not counting the 17 institutes and stations of its young Academy of Sciences.)

The young surgeon avidly read all the literature in his field he could borrow or subscribe to in Baku; he strove to perfect his skill in the operation theater. In those years there were few hospitals in Azerbaijan, and their clients were the well-to-do. Medical aid was beyond the means of the common folk, whom Mir-Kasimov so knew and loved.

NEW OPPORTUNITY

All this has changed in Soviet times. New hospitals, universities and institutes have sprung up. Mir-Kasimov was sent abroad to study under prominent surgeons. He specialized in abdominal surgery and surgery of the urinary tract. He wrote a number of monographs that attracted the attention of medical scientists throughout the Soviet Union.

In addition to his medical work Mir-Kasimov is an active participant in the development of health protection in Azerbaijan. The people have reciprocated his love: Greater Khachmass District, where he took an active part in erecting a hospital, elected him deputy to the Supreme Soviet of the USSR.

In the early 30's the Academy of Sciences of the USSR took a major step in

CULTURAL LIFE IN LVOV

By B. MARKOV

IT IS enough to look at the billboards in Lvov to see that the city is leading an intense cultural life. In addition to the four theaters, philharmonic orchestra and numerous variety companies, the townsfolk are entertained by theatrical brigades passing through on their way to perform for the army of occupation in Germany, as well as by the local Red Army club. There are also amateur companies, both army and civilian.

There is considerable activity in the field of literature. The first issue of a magazine published by the Lvov section of the Union of Soviet Writers of the Ukraine is to come out soon. A book on the heroes of the Lvov divisions will be put out by this section jointly with the regional publishing house on the anniversary of the liberation of Lvov from German occupation.

Every Thursday Lvov writers and poets gather at the home of Anton Khizhnyak, editor of the local newspaper "Vilna Ukraina," to discuss their latest books and meet visiting colleagues. It has already become a tradition for Ukrainian writers and poets in the army to submit their latest works to the judgment of Lvov literary circles before publication. Kiev men of letters, including Academician P. Tyshchenko, M. Rylsky and M. Bazhan, often come to Lvov to read their new works and to advise local writers.

At a recent Thursday gathering A. Kozlanyuk, a Lvov writer, read his new play describing the struggle of Western Ukraine against the Hitlerite occupationists. Another play discussed at one of these gatherings was Yuri Kostyuk's "Taras Shevchenko," about the great Ukrainian writer and champion of freedom. Its premiere at the Lvov Juvenile Spectators' Theater was a big success.

The Lvov conservatory of music and the philharmonic orchestra are important stimuli for local composers and musicians. The first serves as the headquarters for theoretical work, while the second brings to the general public the results of the composers' labors. The programs of the symphony concerts conducted by as distinguished a musician as Mikola Koles often feature the works of Lvov composers.

Much is being done to restore Lvov's numerous museums wrecked and looted by the fascists. The Museum of Ukrainian Art opened last month with a rich collection of paintings by Ivan Trush, a distinguished Western Ukrainian artist. A department exhibiting the art of the 15th and 17th centuries, as well as a section devoted to folk art are to be added shortly.

Much attention is being paid to folk art in Lvov. The Folk Art Center opened last year conducted an extensive review of amateur art throughout Lvov Region, with hundreds of dramatic and choral circles from the towns and villages participating.

Jubilee Session of Academy

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Khachatur Koschtojan, of Moscow University and member of the Armenian Academy of Sciences.

Professor E. D. Adrian of Cambridge University had a happy meeting with Professor Yakov Parnas of Lvov University, whom he had not seen for 15 years. A few minutes earlier Professor Parnas had introduced the President of the Polish Academy of Sciences and a group of Polish scientists to President Komarov.

Another pair of old friends who met at the reception were Professor Julian Huxley, F.R.S., the famous British zoologist, and the Belgrade zoologist Stankovic. Stankovic related how three days before the liberation of Belgrade the Germans had set fire to the university building and wrecked the library

3,625,000 City Youngsters Spend Summer in Countryside

By N. BABIN

THE NOTES of reveille have hardly died away in the clear morning air when the silence of forest and meadow is invaded by the merry hum of children's voices. It is seven a.m. Boys and girls come running from the big building standing on the edge of the woods. Quickly they line up on the meadow beside the flagpole. Voices are hushed as a command rings out, and slowly and solemnly the large flag is raised to the top of the staff. A new day has been ushered in at the Pioneer camp.

The instructor announces the schedule for the day and gives assignments to the various brigades. Shura Nikolayeva's brigade will be on duty in the kitchen. Misha Savin's brigade will put the finishing touches to the sports grounds. The naturalists' circle will hold a class right here in the meadow. A group of juvenile anglers will spend most of the day at the river's edge with their fishing tackle.

BUSY DAY AHEAD

The children hurry off to wash and brush up before sitting down to a hearty breakfast in the open air. They glow with anticipation of the day's work, games and amusements.

Five days ago 120 children between the ages of 7 and 14 arrived at this Pioneer camp near the village of Novo-Petrovskoye in Moscow Region. Only five days and already many of them are nicely tanned and the fresh air, good food and sunshine have done their beneficent work.

The children have plunged themselves heart and soul into the romance of the "great outdoors." Life in camp offers something new and exciting every day. They learn to run, swim, jump, throw the discus, put up tents, build camp fires and a hundred and one other useful things.

They love to read under the shade of a whispering pine tree and to sit around the camp fire in the evening listening spellbound to stories by ex-servicemen about the brave exploits of Soviet men and women.

This is one of the 400 summer camps set up in the forests of Moscow Region where children of factory workers and office employees of the capital will spend the summer vacations in the pine forests under the care of trained instructors and physicians.

Some 43,500 Leningrad boys and girls are being sent to similar camps in the environs of their city.

The camp is the most popular form of organized vacations for schoolchildren. But it is not the only form. The children of the river workers of the lower Volga area, for instance, will spend their time in a "floating sanatorium" sailing up the Volga and the Moscow-Volga Canal. Then there are the hikers. Several thousand schoolchildren go on hiking tours every year in the picturesque parts of the country. Accompanied by teachers they collect medicinal herbs and various wild plants, and study the history, geography and economy of the district they are touring.

The Soviet Government attaches great importance to the organization of summer vacations for children and spares no expense for this purpose. Even in the hardest years of the war millions of rubles were allocated annually for measures to insure them a healthy and restful summer.

In accordance with a special decision recently adopted by the Government, some 3,625,000 children, with preference given to the children of servicemen, war invalids and partisans and the inmates of orphan homes, will be given vacations in the country this summer. So-called health centers in city parks and gardens run on the same lines as the out-of-town camps, where the children are provided with four meals a day and spend the bulk of their time under the supervision of pedagogues, are provided for those who stay in the towns.

Vladimir Komarov—President of Academy

(Continued From Page 1)

astronomers to the immediate solution of urgent problems on a scale hitherto unprecedented.

Under the direct leadership of the President of the Academy, Soviet scientists helped to speed the extraction of millions of tons of ore, coal and oil for war needs and the construction of vast irrigation systems making it possible to grow grain and industrial crops over large areas never before cultivated.

Komarov belongs to the old generation of Soviet scientists. Last year the country honored him on his 75th birthday. It is difficult for those who do not know him to imagine the tremendous energy and vitality of this hoary-headed man, or to visualize how fireless his efforts to advance science and mobilize all its forces for the speediest restoration of the war-torn economy of the territories formerly occupied by the Germans.

A recognized authority in his own field, Komarov well understands the problems and tasks of scientists in all the other fields as well, and they know that the President is always ready to help and support them in their work.

Today, when Academician Komarov opens the Academy's jubilee session in the presence of an illustrious gathering of Soviet and foreign scientists, he and his colleagues will have every reason to be proud of their achievements and of the record the Academy of Sciences has to show for the 220 years that have passed since its inauguration as the country's scientific nerve center.

Sporting Talk

By STANDER

EVERY single sportsman I know is overjoyed at the news: on July 15 the annual sports parade will be held again on Red Square in Moscow.

For four years the war prevented the staging of this colorful pageant of youth, strength and vigor. Each parade was different, yet they were all the same in the uplifting impression they produced on the spectator. I have never seen anything to equal them.

Casting back in my memory, I recall highlights of the last few parades in the pre-war years. There was the gigantic float modeled on a soccer ball, on which stood the 11 players of the country's star team. The float with a boxing ring in which an exhibition bout was staged. The gymnasts going through their swift, graceful turns as they crossed the square. The rapid-fire exhibition soccer game played on a turf-like carpet rolled out before the ancient Kremlin walls.

The privilege of taking part in the parade is fiercely contested, and those who finally arrive are the pick of the country's athletes. There are 16 sports delegations, one for each republic of the Union. Each delegation stages a review in which its national culture, history and traditions are reflected. What makes it all the more colorful are the national costumes—the embroidered linen blouses of the Ukrainians and Belorussians, the men and women from the Central Asian republics in their long robes and tall fur hats, the Georgians in their gold-embroidered vests.

The central figures in the parades were always the gymnasts, whose metier adapts itself the best to pageantry. Each delegation's gymnasts staged a show expressing features typical of that republic. The Uzbek from arid Central Asia, for example, once depicted the digging of an irrigation canal right on Red Square. That was an impressive sight. Gymnasts from Azerbaijan went through motions describing the erection of oil derricks and the extraction of oil.

It may sound very complicated, but it actually was not; in fact, they always seemed to find surprisingly simple and yet expressive means of conveying their ideas. Prominent artists, stage directors and balletmasters considered it an honor to be invited to help prepare the pageants.

Preparations for this year's parade have begun in all the republics. Exactly what is being planned I do not know as yet, but there can be no doubt that the victory theme will predominate.

Besides the parade, there is something else to look forward to on or around July 15, which is Sports Day. As usual, the Soviet Union's sportsmen are out to mark the holiday with new records and other achievements. Initial reports on the progress of this drive are already beginning to come in. In the Volga town of Saratov weightlifter Eugene Lopatin has just set two new regional records. A stadium has been rebuilt in Sevastopol, on the Black Sea. Leningrad swimmers are training intensively in the hopes of smashing records. Sergei Komarov, the Moscow track star, Leonid Meshkov, the swimmer, and many others are girding their loins for the big day.



PEOPLE OF REAR FETE FRONTLINERS. A scene during the gathering in the Moscow Conservatory in honor of Red Army heroes. Shown above are N. Sirotnina, student at the Moscow Technological Institute; A. M. Tavorovskaya, a top-notch textile worker; corporal A. D. Makarov, Red Army man D. S. Voroshchenko, and sergeant majors V. P. Agafonov and B. K. Shekera. —Photo by N. Fedoseyeva

Institutes—Centers of Research

(Continued From Page 2)

tion and medicinals in wild grasses, moss and the needles of evergreen trees. All this, incidentally, did not prevent the Institute of Botany from compiling the 12th and 13th volumes of "Flora of the USSR" and "Flora of Tataria" during the war years.

The Institutes of History, Philosophy and Literature have produced in wartime many works dealing with the struggle of the people against German aggression, exposing the reactionary essence of fascism.

The Institute of Biochemistry named after Academician Bach conducts research on metabolism and biochemical processes. It has discovered a number of biochemical laws. At the same time it has been of great service to the Soviet food and vitamin industries; among other things, it has helped improve the quality of tea, bread, wine and dehydrated vegetables.

Thanks to the scale and state ownership of Soviet industry, scientific and engineering achievements have an exceptionally broad field of application. The new method of dehydrating vegetables and retaining their vitamins that

At 8 o'clock in the afternoon I attended a reception given by the Presidium of the Academy of Sciences at the headquarters of the Academy (Bolshaya Kalousskaya 14.)

I made the acquaintance of E. S. Savinova ("Jeannie"), who served me faithfully as guide and interpreter during my whole stay. She is a sincere and charming person, and worked very hard to help me get as much information as possible during my visit.

The reception was very colorful (in part because of the academic robes of the English). I met Crowther, Ogg, Muir, and others from the United Kingdom; also Ashby from Australia. Several members of the Dokuchaiev Institute were there. Like all the meetings, this one was dominated by workers in the fundamental, rather than the applied, sciences.

At 8 o'clock in the afternoon I attended a reception given by the President of the Academy of Sciences at the headquarters of the Academy (Bolsheyskaya St.).

I made the acquaintance of N. S. Gavrilov ("Lennin"), who served me faithfully as guide and interpreter during my whole stay. She is a sincere and charming person, and worked very hard to help me get as much information as possible during my visit. The reception was very colorful (in part because of the academic robes of the English). I met Crowther, Ogg, Muller, and others from the United Kingdom; also Ashby from Australia. Several members of the Dokuchaev Institute were there. Like all the meetings, this one was dominated by workers in the fundamental, rather than the applied, sciences.

ПРОГРАММА
ЗАСЕДАНИЙ ОТДЕЛЕНИЙ
ПОСВЯЩЕННЫХ
220-летию
АКАДЕМИИ НАУК
СССР



18 июня 1945 г.

МОСКВА



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24th Nov 1887

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ОТДЕЛЕНИЕ ФИЗИКО-МАТЕМАТИЧЕСКИХ НАУК

(В Большом зале Дома Ученых АН СССР, ул. Кропоткина, 16)

18 июня — 12 часов

1. Получение и использование жидкого кислорода

Доклад академика П. Л. КАПИЦЫ

2. Аналитическая теория чисел

Доклад академика И. М. ВИНОГРАДОВА

3. Развитие учения о нелинейных колебаниях и их применении

Доклад академика Н. Д. ПАПАЛЕКСИ

4. Природа эмиссионного спектра долгопериодических переменных звезд

Доклад академика Г. А. ШАЙНА

(В Ленинграде, в Большом конференц-зале АН СССР,
университетская наб., 5)

23 июня — 15 часов

1. Полупроводники и их применение

Доклад академика А. Ф. ИОФФЕ

2. Конструктивная теория функций, как развитие идей Чебышева

Доклад академика С. Н. БЕРНШТЕЙНА

3. Состав космических лучей на высоте 3250 метров над уровнем моря

Доклад академика А. И. АЛИХАНОВА

4. Физика моря

Доклад члена-корреспондента АН СССР В. В. ШУЛЕЙКИНА

ОТДЕЛЕНИЕ ХИМИЧЕСКИХ НАУК

(Китайский проезд, 3/4, подъезд 9. Большая аудитория
Политехнического музея)

18 июня — 12 часов

1. О реакциях солей типа Бломстранда

Доклад академика И. И. ЧЕРНЯЕВА

2. Новые электрокапиллярные явления

Доклад академика А. Н. ФРУМКИНА

3. О некоторых разветвленных цепных реакциях

Доклад академика Н. Н. СЕМЕНОВА

4. О квазикомплексных металло-органических соединениях

Доклад академика А. Н. НЕСМЕЯНОВА

5. Синтез алифатических β -аминокислот и их важнейшие превращения

Доклад академика В. М. РОДИОНОВА

ОТДЕЛЕНИЕ ГЕОЛОГО-ГЕОГРАФИЧЕСКИХ НАУК

(Большая Калужская, 14/16, Геологический музей)

18 июня — 12 часов

1. Краткий обзор географии почв всей суши

Доклад академика Л. И. ПРАСОЛОВА

2. Пути развития мерзлотоведения в СССР

Доклад академика В. А. ОБРУЧЕВА

3. Сравнительная тектоника Северной Америки и Европейской части СССР

Доклад члена-корреспондента АН СССР Н. С. ШАТСКОГО

4. Образование контактовых месторождений

Доклад члена-корреспондента АН СССР Д. С. КОРЖИНСКОГО

ОТДЕЛЕНИЕ БИОЛОГИЧЕСКИХ НАУК

(Большая Калужская, 33, зал Отделения биологических наук)

18 июня — 11 часов

1. Вступительное слово академика-секретаря Отделения
академика Л. А. ОРБЕЛИ

2. Академия Наук и изучение животного мира нашей
страны

Доклад академика Е. Н. ПАВЛОВСКОГО

3. Основные черты обмена азотистых веществ в растении

Доклад академика Д. Н. ПРЯНИШНИКОВА

4. Пути развития сравнительной патологии и ее значение
для биологии и медицины

Доклад академика Н. Н. АНИЧКОВА

5. Нервное возбуждение и химическая динамика клетки

Доклад члена-корреспондента АН СССР Х. С. КОШТОЯНЦА

6. Фосфорная кислота и функции клетки

Доклад профессора В. А. ЭНГЕЛЬГАРДТА

ОТДЕЛЕНИЕ ТЕХНИЧЕСКИХ НАУК

(Малый Харитоньевский пер., 4, конференц-зал Отделения
технических наук)

18 июня — 11 часов

1. Развитие советской металлургии

Доклад академика И. П. БАРДИНА

**2. Работы русских ученых по механике в Академии
Наук СССР**

Доклад члена-корреспондента АН СССР Н. Г. ЧЕГАЕВА

3. Русская школа по теории механизмов

Доклад академика Н. Г. БРУЕВИЧА и члена корреспондента АН СССР И. И. АРТОБОЛЕВСКОГО

**4. Развитие применения вольтовой дуги в электрической
сварке металлов**

Доклад академика В. П. НИКИТИНА

5. Теория подобия как основа эксперимента

Доклад академика М. В. КИРПИЧЕВА

6. Артиллерийская наука и техника и Академия Наук СССР

Доклад академика А. А. БЛАГОНРАВОВА

ОТДЕЛЕНИЕ ИСТОРИИ И ФИЛОСОФИИ

(Волхонка, 14)

18 июня — 11 часов

1. Вступительное слово академика секретаря Отделения
академика В. П. ВОЛГИНА

2. Образование Русского государства

Доклад академика Б. Д. ГРЕКОВА

3. Аграрная история Англии в работах русской исторической школы

Доклад члена-корреспондента АН СССР Е. А. КОСМИНСКОГО

4. Проблема сознания в свете диалектического материализма (К вопросу о философских основах советской психологии)

Доклад члена-корреспондента АН СССР С. Л. РУБИНШТЕЙНА

5. Восточно-славянские племена накануне образования Киевского государства

Доклад профессора П. Н. ТРЕТЬЯКОВА

ОТДЕЛЕНИЕ ЭКОНОМИКИ И ПРАВА

(Ул. Фрунзе, 10, Институт права)

18 июня — 12 часов

1. Проблема суверенитета в советской федерации.

Доклад академика И. П. ТРАЙНИНА

2. Проблема циклов и кризисов в работах советских экономистов.

Доклад академика И. А. ТРАХТЕНБЕРГА

3. Развитие русской экономической мысли

Доклад профессора П. А. ХРОМОВА

ОТДЕЛЕНИЕ ЛИТЕРАТУРЫ И ЯЗЫКА

(Ул. Воровского, 25-а)

18 июня — 12 часов

1. Культура русского языка

Доклад академика С. П. ОБНОРСКОГО

2. Героические темы древнерусской литературы

Доклад академика А. С. ОРЛОВА

3. А. П. Чехов (На грани двух эпох)

*Доклад члена-корреспондента АН СССР
П. И. ЛЕБЕДЕВА-ПОЛЯНСКОГО*

June 16

Early in the morning before breakfast I took a walk in the Red Square. One is impressed with the old cobblestone pavements, the high red walls, and the many towers dating back to different periods in the development of the Kremlin.

After breakfast I drove out to the Dokuchaiev Institute where a very crowded program had been prepared for us.

The first talk was on soil analysis. It was explained how the organic matter was removed in steps and ratios of exchange cations obtained, including lead, mercury, and copper in relation to calcium. Both adsorption and desorption curves are plotted. Sometimes these are similar and often they are very different. Some of the reactions appear to be reversible in some soils and irreversible in others. It is felt that these ions form compounds with humic acid.

Investigations were under way regarding exchange reactions at the normal moisture content of natural soil. It was emphasized that the usual methods of carrying on base exchange studies with an excess of water gives misleading results.

Polynov has been carrying on some very interesting work with the first steps of weathering and soil formation from fresh rocks in the Caucasus Mountains. He has made a large collection of lichens and their products and has found that they take elements from the rocks in the following order: Phosphorus, calcium, magnesium, potassium, sodium, iron, silicon, and aluminum. It is his view that



Торжественное заседание юбилейной сессии Академии наук СССР в Большом театре. На снимке: президиум сессии; на трибуне — академик Л. А. Орбели зачитывает речь президента Академии наук академика В. Л. Комарова.

Фото М. Калашниковой и С. Коршунова.

Pravda, June 17

Советские учёные приняли самое деятельное участие в мобилизации всех природных ресурсов страны для дела обороны. Тем этим неутомимым и плодотворным творческим трудом советские учёные внесли неоценимый вклад в дело мировой цивилизации и культуры: они помогли доластной Красной Армии сломить главные силы германского империализма и тем самым создать решающую предпосылку для окончательного уничтожения гитлеровской тумы, грозившей истребить все многовековые завоевания человеческой культуры. Советские учёные оказались достойны своей Родины, оказались достойны исторической миссии народов СССР и в первую очередь великого русского народа.

Эта заслуга советских учёных перед человечеством отвечает традициям русской науки, всегда бывшей передовой силой и

вним».

Русский народ дал миру величайшего гения нашей эпохи, корифея передовой научной мысли, основоположника и создателя советского государства—Владимира Ильича Ленина.

Открытие Лениным советской власти, как новой формы государства, было характеризовано на происходящей сейчас юбилейной сессии Академии наук СССР, как величайшее научное открытие всех эпох. Это открытие позволило за четверть века преобразовать старую, отсталую Россию в великую социалистическую индустриально-колхозную державу, найти пути перестройки современного общества в общество социалистическое на основе советской системы.

С патристической гордостью юбилейная сессия Академии наук подчеркнула роль

стороны большевистской партии, советского правительства, лично товарища Сталина.

В своей вступительной речи на юбилейной сессии президент Академии наук СССР В. Л. Комаров очень хорошо сказал о том, что советские учёные помнят о прошлом и смотрят в будущее, отдадут себе отчёт в той большой работе, которая предстоит впереди. Велика заслуга русской науки перед мировой культурой, славны и благородны её традиции, восходящие к её основоположнику — Ломоносову. Поддерживая и умножая эти традиции, советская наука обогатит человечество и прославит наш народ новыми открытиями, достойными великой сталинской эпохи, с успехом решит многообразные и сложные задачи, которые ставят перед ней жизнь, практика социалистического строительства, интересы нашей великой Родины.

В юбилейный момент, когда Ломоносов двинулся занавес и предстала перед участниками заседания сцена, где перед портретом товарища Сталина, среди цветов, залитый светом собрался президиум... Какая страна так чествует своих учёных! Где ещё праздник науки приобретает такой всенародный характер!

Глубокое торжество чувствовалось в собрании. Ведь это собралась самая квалифицированная часть советской интеллигенции. Вместе со всем народом она переносила тяготы военного времени, она много пережила за последние годы, — но как легко дышится ей теперь! Огромная тяжесть свалилась с плеч, можно радоваться свободно, от всей души, победа вошла в души огромной и светлой радостью, победа придаёт такое неизъяснимое чувство гордости, уверенности, счастья.

Праздник академической науки совпал с днями празднования победы, и во всех выступлениях, в приветствиях, в отчётных докладах было всепоглощающее чувство великой гордости за свой народ, чувство великой благодарности Красной Армии, партии большевиков, Советскому правительству и — прежде всего — товарищу Сталину.

В речи президента Академии наук СССР В. Л. Комарова, в докладе академика-секретаря Н. Г. Бруевича прошла в общих очерках жизнь Академии. Прекрасны её первые годы, её замечательная молодость. В титанической фигуре Ломоносова выразил себя русский народ в ту знаменательную пору своей истории, когда он ощутил в себе богатырскую силу, поднялся во весь рост и сразу же, с первого же слова, поставил перед собой гигантские задачи преобразования Родины, смелого познания мира...

Эта молодость переключается с нынешним, советским периодом истории Академии, когда в масштабах, неизмеримо выросших, советская наука ставит перед собой задачи всемирно-исторического размаха, когда новые титаны мысли и воли, Ленин и Сталин, придают академической

и кичливости. Но в самом тоне речей, приветствий, аплодисментов, в том тоне, который «делает музыку», выражена победа советского народа. Юбилейная сессия Академии наук СССР — это сессия победы. Советская наука показала своё превосходство над вражеской наукой. Мы видим в зале и на сцене людей, о которых страна знает, что их мысль, их опыт, их воодушевлённая стремлением к победе воля умножили силу Красной Армии.

Доклад академика В. А. Обручева озаглавлен: «О деятельности Академии наук в области геологического и географического изучения нашей страны». А его можно было озаглавить короче: «Наша великая Родина». Изумительную, волнующую картину нарисовал академик в кратком и беглом обзоре географических и геологических открытий, экспедиций, исследовательских трудов...

Наука только зарождается в России, брезжит на горизонте лишь её рассвет, — а какие гигантские по своему размаху задачи ставят перед собой русские люди. Они ещё не поставили своей ноги достаточно твёрдо на прибалтийском побережье, а им уже непременно надо узнать, действительно ли отделяется проливом Азия от Америки... И ещё в предистории русской науки казак Дежнев, совсем не академик, совсем даже не учёный, пробирается в такие места, которые тогда иначе и нельзя было назвать, как гиблыми, и никакого корыстного расчёта у него не может быть в этих местах, а горит в нём неугасимый огонь научной страсти.

Скупая история тогда предоставила русскому пытливному уму только суровый север, только Ледовитый океан, но, опережая решительно все народы, русские мореплаватели — Лаптевы, Малыгин, Прончищев, Челюскин — обследуют его берега, забираются всё дальше, вглубь, описывают и определяют границы русского хозяйства. И гениальный сын русского помора, Ломоносов, добывается экспедиции, чтобы открыть северный морской путь... в Индию! Вот пи-

та же любовь к Родине и стремление тить её. Кто выдумал, что русские — дия сухопутная? Моряки стоят у ко-русской географии. За морями, об-шими океаны земного шара, следу-логи, исследователи недр русской, а-советской земли, следуют ботаники, мники...

Белый, как лунь, В. Л. Комаров за-столом президиума. Белый, как, В. А. Обручев на кафедре читает до-том, как русский народ узнавал сво-дипу... А оба они, — так же как по-президент Карпинский, как сотни а-тельных русских учёных, — пешком-дили тысячи вёрст, бродили по тай-бескрайним степам, не уставали в-Россию, изучают и теперь.

Прекрасна их старость. Они не по-трудились. Сотни и тысячи со-учёных ежегодно совершают экспеди-путям, которые ими были открыты. дельные учёные, а многочисленные-туты продолжают их дело, и наша-всё больше, всё шире раскрывается-красоте своей, во всей неизмеримо-мощи.

Отечественная война призвала их-всех учёных, к обороне. Всполнован-сказывает В. Л. Комаров, как работа-его руководством академики, проф-научные работники на Урале, что-крыть новые источники средств, димых Красной Армии. Старые гла-трели зорко, как молодые, и проника-трп «ршина» вглубь. Забили новые-ники нефти, словно заколдованные-сверкнули в земле ценные руды...

Необычайный подём чувствуе-юбилейной сессии. Это, действи-историческая сессия. Деятели со-науки ощущают на себе внимание, советских людей. Вся обстановка, ненная торжественности, говорит о-кое почётное место заняла академ-наука в жизни своего народа.

Д. ЗАСЛАВС

Сегодня на сессии

Утро сегодняшнего дня участники юбилейной сессии Академии наук СССР посвящают экскурсиям в музеи Москвы. Большая группа учёных посетит Музей В. И. Ленина.

Вечером в Колонном зале Дома союзов состоится торжественное заседание юбилейной сессии Академии наук, на котором будут сделаны три доклада: «Роль Академии наук в историческом развитии органической химии» — доклад академика Н. Д. Зелинского; «Академик Пафнутий Львович Чебышев и русская школа математики» — доклад члена-корреспондента Академии наук СССР В. Н. Делоне; «Советская школа аэродинамики в Академии наук» — доклад академика Б. Н. Юрьева.

День 18 июня будет занят заседаниями отделений Академии наук СССР, в которых примут участие и иностранные учёные. Вечером 18 июня участники сессии при-

глашены в Большой театр на оперу Глинки «Иван Сусанин».

День 19 июня целиком посвящается экскурсиям по музеям и научным учреждениям Академии наук. Участники сессии посетят Геологический музей имени академика А. П. Карпинского, Институт физических проблем, Физический институт имени П. Н. Лебедева, Институт органической химии, Институт общей и неорганической химии имени академика Н. С. Курнакова, Институт химической физики.

В этот день участники сессии посетят также Институт биохимии имени акад. А. Н. Баха, Институт цитологии, гистологии и эмбриологии, Почвенный институт имени В. В. Докучаева, Энергетический институт имени акад. Г. М. Кржижановского, фундаментальную библиотеку общественных наук, где организована выставка изданий Академии, а также Институт права.

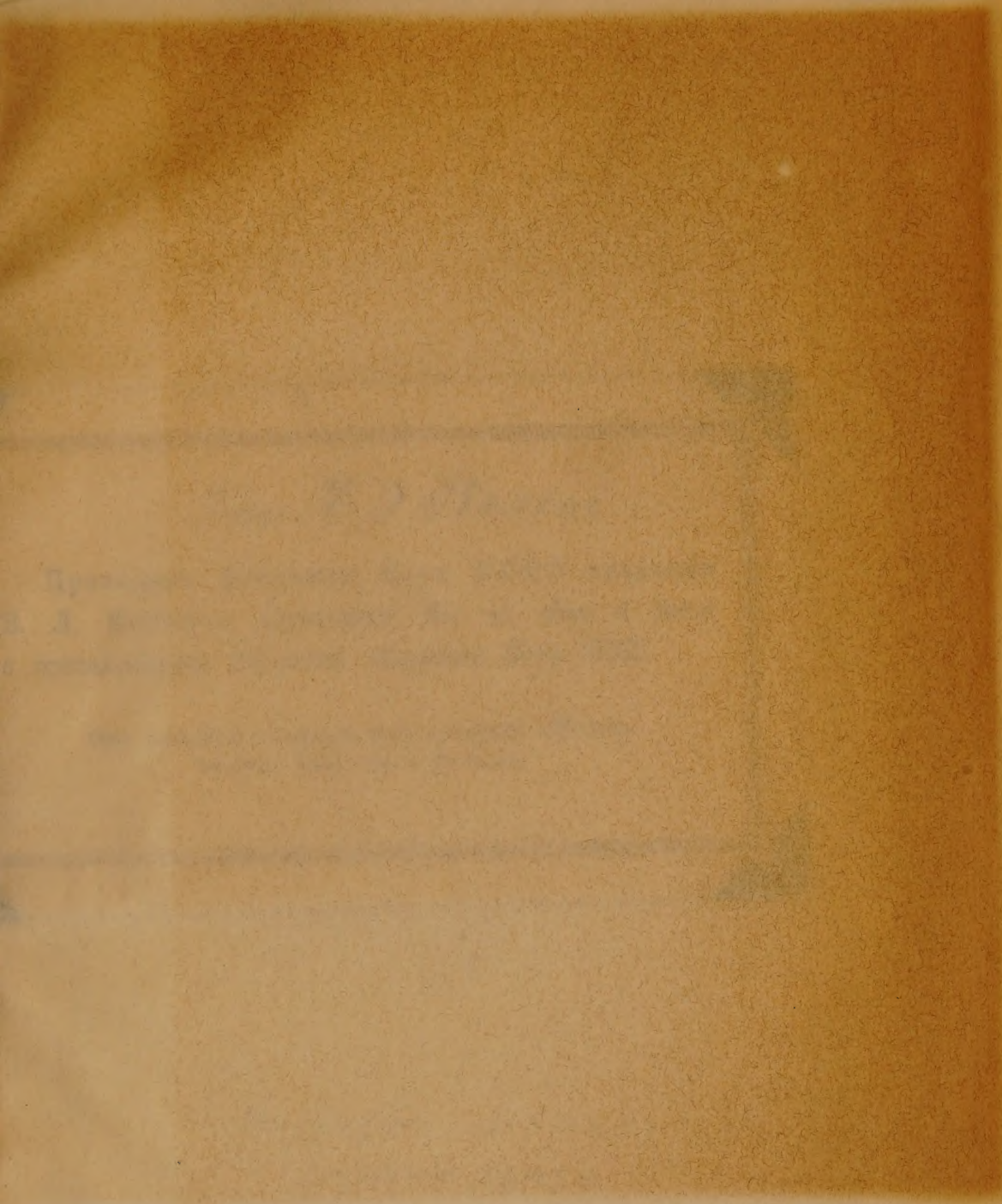
Приветствие ЦК ВЛКСМ Академии наук СССР

В связи с 220-летием Академия наук СССР получила приветствие от ЦК ВЛКСМ, в котором говорится:

Советская молодежь глубоко уважает и любит учёных нашей страны за их благородное служение народу, за их вдохновенный труд во имя процветания нашей великой Родины. В дни Великой Отечественной войны советские учёные неутомимо работали на оборону социалистического Отечества, внесли неоценимый вклад в дело победы над гитлеровской Германией.

Молодежь нашей страны преисполнена чувства благодарности деятелям науки, техники, литературы, искусства, вооружающим молодое поколение знаниями всех тех богатств культуры, которые выработало человечество.

Честь и слава советским академикам, достойно продолжающим и приумножающим славу русской науки — самой передовой науки в мире!



The Presidium at the first formal meeting of
the Academy in the Bolshoi Opera House

ОБЕД

ДАННЫЙ ПРЕЗИДЕНТОМ
АКАДЕМИИ НАУК СССР
В СВЯЗИ С 220 - ЛЕТИЕМ
АКАДЕМИИ НАУК



Ресторан "Москва"

16 июня 1945 г.



ВИНА и ВОДКИ

Водка Московская

Коньяк Грузия «К. С.»

Напареули

Цинандали

Кахетимское

Абрау-Кабернэ

Советское шампанское





МЕНЮ

ЗАКУСКА ХОЛОДНАЯ

Икра зернистая
Икра паюсная
Растегай с рыбой
Калач
Балык белорыбий
Лососина малосольная
Сардины с лимоном
Поросенок заливной
Ветчина
Форшмак из дичи
Галантин из пулярды
Блюдо ассорти
Осетрина заливная
Шофруа из пулярды
Канapé, сандвичи
Помидоры, огурцы, редиска

ЗАКУСКА ГОРЯЧАЯ

Тарталет с дичью

ОБЕД

Бульон из кур, гренки
Стерлядь волжская в шампанском
Жаркое { Индейка
Каплуны ростовские
Рябчики сибирские
Салат зеленый «Москва»
Пломбир сливочный
Кофе — торт
Фрукты

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At 1 p.m. I attended the first general meeting of the Academy held in the Bolshoi Opera House. We were addressed by the President and a great many others who gave greetings. These included talks by representatives from the various academies of the individual Republics in the Soviet Union and some greetings from foreign guests. The program included two long reports (in Russian) by members of the Academy.

The whole setting was very colorful, but, like all such meetings, was marred a little by the continual operations of large numbers of photographers taking snapshots and movies.

The official session closed with a short program of symphonic music.

In the evening the Presidium of the Academy gave a most elaborate banquet for the delegates in the Moskva Hotel. The banquet included everything one could imagine to eat and drink. About the time we thought we were through each guest was given a whole roast chicken. There was much drinking and many toasts and a very friendly and warm atmosphere developed rapidly during the course of the evening. After a short period of ball room dancing the party was over about a few minutes after midnight.

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June 17 - Sunday

In the morning I took a short tour of Moscow, including some of the historical monuments and other points of interest. I also took a ride on the Moscow subway and visited several of the subway stations. The people in Moscow are very proud, and justly so, of their subway system. Each of the underground stations is literally a unique palace. No two are alike. The stations and the cars are kept in unusually fine condition. In the subways, as well as elsewhere, one is pleased by the absence of advertising. There is no litter whatever on the floors, even though there are great crowds of people.

Of course, this goes for the streets in both Moscow and Leningrad. People simply do not throw cigarette stubs or other refuse in the street. The main streets are very wide and kept scrupulously clean. Although some of the wide streets and alleys are not in good condition they have no rubbish and are kept in good order.

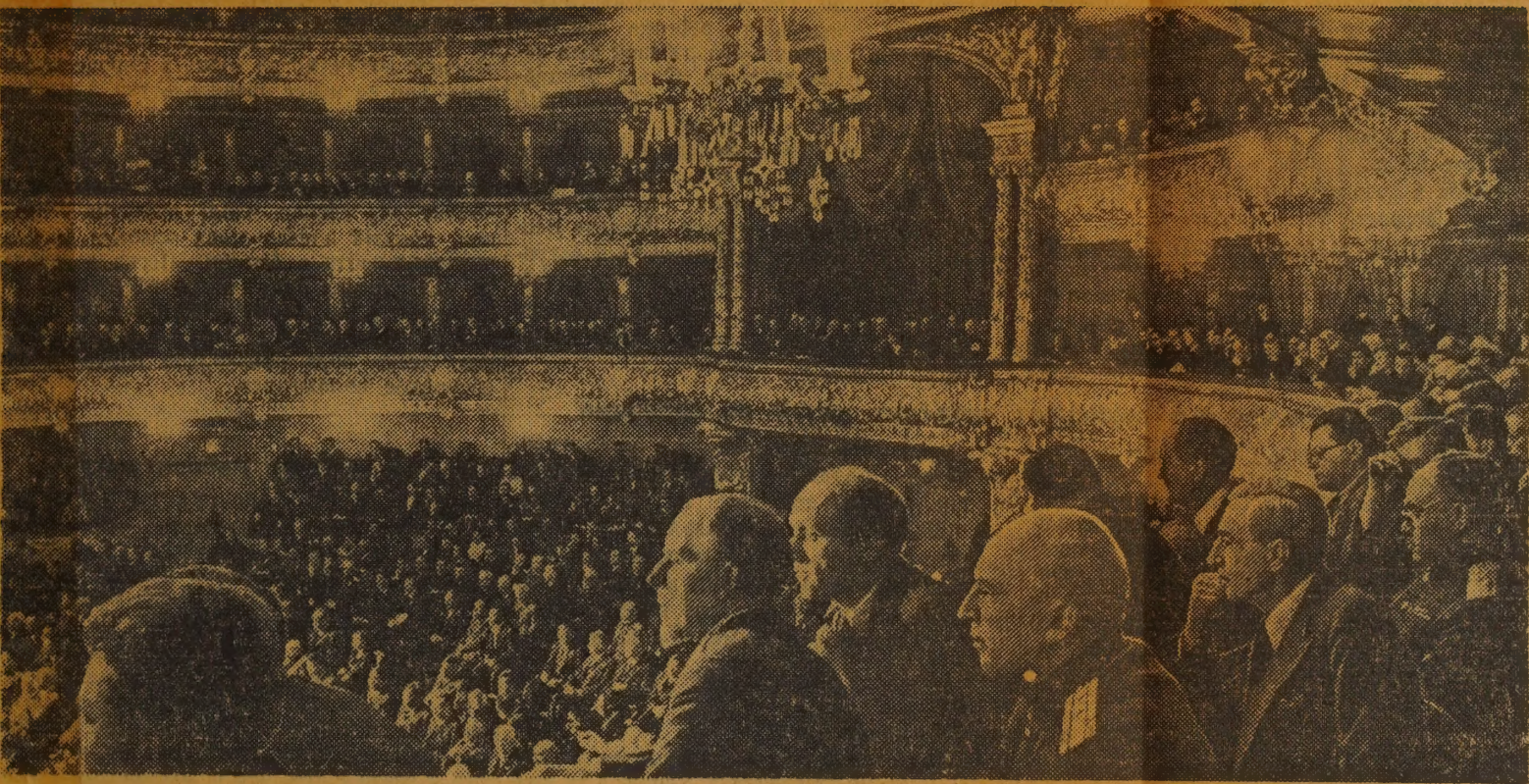
I took a conducted tour through the Kremlin, including the chamber of the Supreme Soviet (modern functional design), the old palaces of the Czars and Empresses, and the large museum, in which are preserved the jewels, crowns, clothing, coaches, dinner service, and similar objects that formerly belonged to the rulers of church and state. The museum is large and crowded. This display suggested that a revolution was inevitable. Veblen himself could not have described such "conspicuous consumption" that kept millions in virtual slavery making things of no particular use.

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На торжественном заседании юбилейной сессии Академии наук СССР в Большом театре.

Фото С. Коршунова и М. Калашникова.

Pravda, June 17

На трупах зияющие раны, нанесенные огнестрельным оружием, тупыми и острыми предметами, тела обезчещенных, а затем замученных женщин и девушек фашистские садисты искололи штыками и ножами. Всего в этот день бандиты убили 194 жителя деревни Верховины, в том числе 65 детей в возрасте от двух недель до 11 лет, много стариков в возрасте свыше 50 лет и 3 стариков в возрасте 80 — 90 лет.

Люблинская газета «Штандар люду» дала подробное описание кровавой трагедии в Верховинах, назвав ее «новым Майданеком». Раскрывая существо кошмарного злодеяния, совершенного польскими фашистами, за спиной которых стоит польская реакция,

высвистывая из револьвера убитым немцам полуторалетняя Мария Павляк. Ее мать бандиты зарезали. Такая же ужасная судьба постигла 2-недельного ребенка крестьянина Михоля Князюка: его ребенок был заколот штыком. Застрелены Ольга Бендарчук и ее 12-летняя дочь, а ее 5-месячный ребенок штыком пригвожден к люльке. 50-летний старик Леон Вилька был убит в постели и т. д. Чешская деревня Лидице, сожженная и уничтоженная гитлеровцами, стала символом их варварства. Деревня Верховины — это символ изуверства и преступлений, совершаемых польской реакцией, пишет «Штандар люду». Газета призывает к беспощадному наказанию фашистских убийц из НСЗ.

Агенты Арцишевского похищают польских детей во Франции

ВАРШАВА, 16 июня. (ТАСС). По сообщению корреспондента агентства Польпресс из Парижа, созданный при Парижской префектуре отдел по распределению репатрируемых обжаловал действия польских офицеров — агентов лондонского польского «правительства», которые среди бела дня похитили в центре Парижа детей поляков, освобожденных из немецкого концентрационного лагеря в Бухенвальде. Полиции уда-

лось задержать одну машину с похитителями детей. Солдат — шофер этой машины, предъявляя свой документ из так называемой польской миссии, признался во время следствия, что получил приказ отвезти этих детей в знаменитые казармы в Бессиере, где имеется сборный пункт для завербованных агентами клики Арцишевского польских солдат.

Агентство АФИ о местонахождении Коха

ЛОНДОН, 15 июня. (ТАСС). Агентство АФИ передает из Стокгольма, что гитлеровский палач Украины, бывший гаулейтер Восточной Пруссии Эрих Кох находится в

настоящее время под чужим именем в лагере германских беженцев в Дании. Кох был в Данию за два дня до капитуляции Германии.

«Трибюн», касаясь ареста корреспондента Польпресс в Лондоне Ягодзинского. «Это — фантастическая мера, для нее существует никакого оправдания, стоящее время, когда война в Европе члена. Тем не менее правительству Английского разрешено продолжать вести вооруженные силы, и оно неуклонно увеличивает свою армию. Можно спросить, против кого будет сражаться эта армия, почему она сейчас, после разгром нацистской Германии, должна пользоваться правами суверенитетности в Англии? Легко сказать, как русские будут интерпретировать длительное покровительство. Если мы хотим укрепить существующее у нас положение, давно пора радикально изменить абсурдное положение».

К аресту Риббентропа

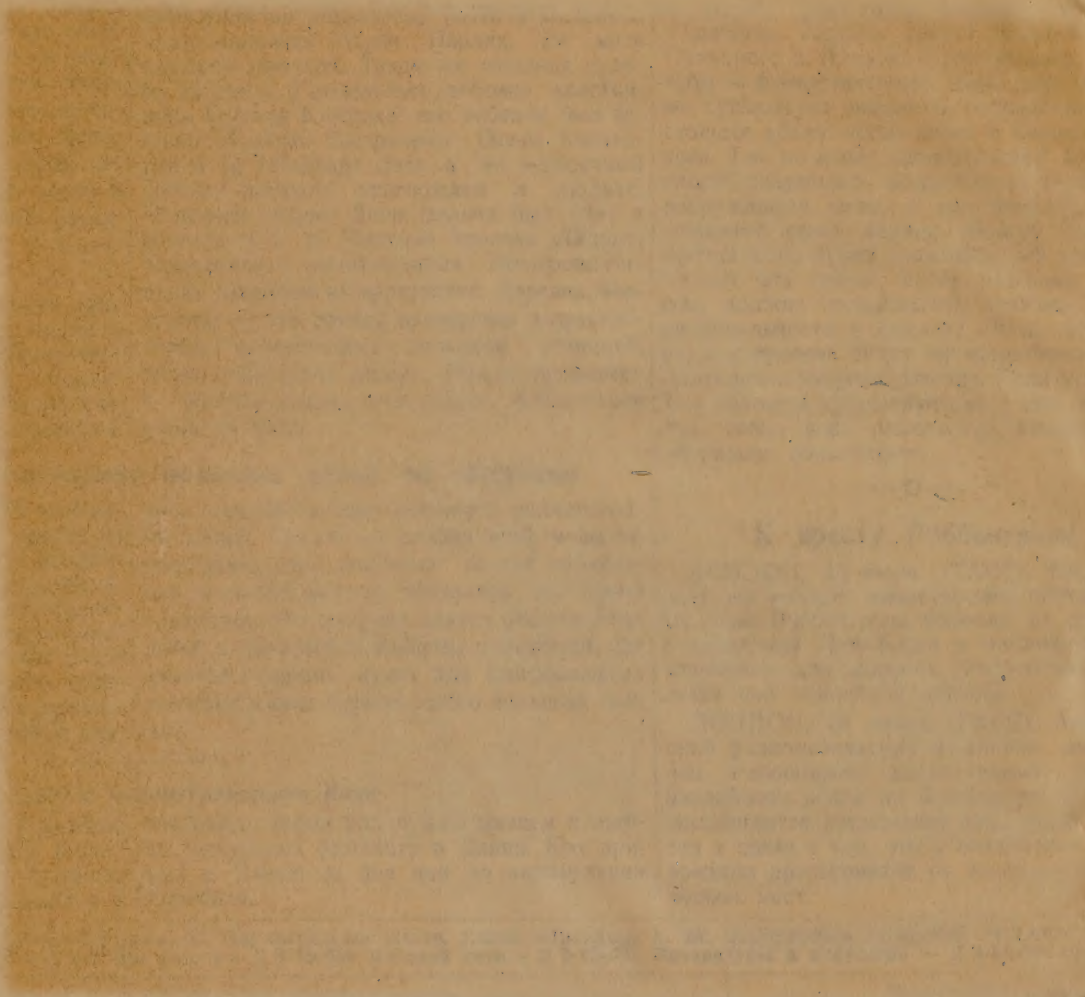
ЛОНДОН, 16 июня. (ТАСС). Как даёт английское министерство информации 15 июня Риббентропа вывезли на аэродрома Люнебурга в неизвестном направлении для допроса. Риббентроп находится под усиленной охраной.

ЛОНДОН, 16 июня. (ТАСС). Английский радиопередачик в Англии, что Риббентроп, доставленный английскими войсками во Франкфурте, подвергается детальному допросу, в связи с тем, что в лондонском военном преступников он занимает первых мест.

In the afternoon there was also another...
of which...
long...



Meeting of Academy in Bolshoi Opera House



Meeting of Academy in Polish Opera House

In the afternoon there was also another general meeting of the Academy where additional messages of greeting were presented, and three long reports covering Russian scientific achievements.

and reclamation of Solonchak soils. These soils and their use present very important problems in large parts of the northern U.S.S.R. and middle Asia. He divides them into three groups in accordance with their relation to the ground water. He points out that possibly by Solonchaks may go directly to the good soil without ever going through the Solonchak stage.

He also subdivides the soils according to their chemical composition before the 3 horizon. The sodium may be deep in the soil or it may be near the surface. Under dry farming they have been able to employ deep tillage, say to 30 centimeters, to bring up calcium sulphate to reclaim the soils. This is only in case the sodium is very deep, of course. He points out also that they have a great many secondary Solonchak soils developed through irrigation in which they have large areas of sodium carbonate Solonchak.

Many of their Solonchak soils occupy the big depressions of semi-arid. These in the earlier stages of formation may not require drainage and can be prepared for use through growing alfalfa and with especially careful tillage.

In the second stage he groups the spotted Solonchaks, which are to be found frequently. He has worked out a method for salt washing in winter without drainage. These are widely distributed. If the water contains less than 10 grams per liter

9
In the afternoon there was also another general meeting of the Academy where additional messages of greeting were presented, and three long reports covering Russian scientific achievements.

June 18

About 10 o'clock I visited the Dokuchaiev Institute and Prof. Kovda discussed in some detail his views on the classification and reclamation of Solonetz soils. These soils and their use present very important problems in large parts of the southern U.S.S.R. and middle Asia. He divides them into three groups in accordance with their relation to the ground water. He points out that genetically Solonetz may go directly to Chestnut soil without ever going through the Soloth stage.

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In Kovda's third stage, ditches two to three meters deep, to serve as collectors of the salty water, may be required. Not many per hectare are necessary.

Prof. Gerasimov and Miss Alexandria showed me the soil maps of continents being assembled by Prof. Prasolov. They gave me all those that were ready and showed me the manuscript copies of the others, including South America. Much of this work is highly speculative, since there are few data to go on.

We attended the formal meeting of the sectional group on the geographic sciences. Prasolov gave the first paper and presented his general views on soil formation, in which he stressed the role of plants and micro-organisms, not only in weathering, but also in the synthesis of inorganic compounds. For this program it was necessary that I sit at the Presidium.

After it was finished those of us interested in soils returned to the Dokuchaiev Institute and discussed the problem of reconstitution of the International Society of Soil Science. Both Demolon and Ogg were strongly of the view that the Germans were so strongly entrenched in the Presidium of the International that it would be necessary to organize another entirely new Society incorporating the good features of the old, strictly along the lines of the United Nations groupings.

A temporary committee was established to correspond with soil scientists throughout the world and make plans for a Fourth International Congress, to be held in an appropriate place in a

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134
matter of two or three years. It was hoped that the work of the committee could be placed in definite form at a meeting that might be held in March 1946 at the same time as the memorial meeting of the 100th Anniversary of the birth of Dokuchaiev.

The committee is as follows: U.S.S.R. - Polynov, Vilensky, general secretary; France - Demolon, Odin; United Kingdom - Ogg, Crowther; United States - Kellogg, Bradfield. It was suggested that Yarilov join the committee as an advisor because of his long experience on the Presidium of the old Society.

In the evening we attended the Opera, Ivan Susanin, at the Bolshoi Opera House. This was a remarkably good program. One is impressed with the excellent stage settings - the best I've ever seen. (Between the acts I discovered that a small dish of ice cream at the Opera costs \$4.00 at the current rate of exchange.)

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ГОСУДАРСТВЕННЫЙ ОРДЕНА ЛЕНИНА
АКАДЕМИЧЕСКИЙ

БОЛЬШОЙ ТЕАТР

СОЮЗА ССР

ИВАН СУСАНИН

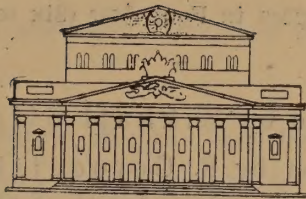


М О С К В А • 1 9 4 5

Келлог

THE STATE ACADEMY OF SCIENCES
OF THE USSR
ORDER OF LENIN

IVAN SUSANIN



МОСКОВ
1951

THE STATE ACADEMIC BOLSHOI THEATRE
OF THE USSR
(ORDER OF LENIN)

IVAN SUSANIN

An opera in Four Acts (Six scenes)

Music by Mikhail Glinka

Text by S. Gorodetsky

Edited by People's Artist of the USSR

A. M. Pasovsky

and Merited Artist L. V. Baratov

MOSCOW
1945

ГОСУДАРСТВЕННЫЙ ОРДЕНА ЛЕНИНА АКАДЕМИЧЕСКИЙ
БОЛЬШОЙ ТЕАТР СОЮЗА ССР

ИВАН СУСАНИН

Опера в 4 действиях с эпилогом (6 картин)

Музыка М. И. Глинки

Текст С. Городецкого

под редакцией Нар. Арт. СССР А. М. Пазовского
и Засл. деят. искусств Л. В. Баратова

МОСКВА
1945



М. Глинка
M. Glinka

Михаил Иванович ГЛИНКА — великий русский национальный композитор. Годы жизни его: 1804—1857. Вершины его музыки: опера «Иван Сусанин» (1836) и опера «Руслан и Людмила» (1842), написанная под влиянием пушкинской одноименной поэмы и на основе ее сюжета.

Эти два классических произведения русской музыки сохраняют в полной силе и свежести богатство мыслей и музыкальной фантазии, изобилуют волнующими плавными мелодиями, красотой гармоний и пластичностью форм. Особенно обращают на себя внимание хоры в оперной музыке Глинки, как могучий, организованный ансамбль человеческих голосов — музыкальный образ великого народа. Знаменитое «Славься», вдохновенный гимн, венчающий оперу «Иван Сусанин» — гениальная находка Глинки, воплотившего в мощном хоровом звучании силу и непоколебимую волю талантливого народа и созданного им государства. Оркестр Глинки полон блеска, мужественной силы и тонкого вкуса в выборе инструментальных красок. Самое ценное свойство инструментовки Глинки заключается в том, что, слушая его оркестр, ощущаешь внутреннюю жизнь — пульс музыки: оркестр поет и дышит.

Число остальных произведений Глинки невелико: увертюры-фантазии для оркестра (сочиненные на испанские темы колоритные «Арагонская хота» и «Ночь в Мадриде»), «Камаринская» — фантазия на народные мотивы и музыка к пьесе Н. Кукольника «Князь Холмский»; циклы превосходных романсов на стихи русских поэтов — классиков, современников Глинки; несколько инструментальных ансамблей (включая фортепианное трио) и ряд фортепианных миниатюр. Но, как всегда у Глинки, все эти сочинения отличаются ясным мелодическим рисунком и изяществом выражения.

Музыка «Ивана Сусанина», начиная с увертюры, говорит о прямоте и непоколебимости русского характера, мужествен-

ности и силе духа. Чувство родины является основным. Оно дает руководящий смысл всему действию: как становится народным героем простой русский человек, крестьянин, и как в сердце каждого русского живет готовность к подвигу, возникающая, естественно, по первому зову обстоятельств.

Живое глубокое ощущение Глинкой чувства родины и чуткое знание русского сердца вызывает и в музыке самые прекрасные, самые высокие помыслы о человечности в человеке. Этим своим содержанием, выраженным в замечательных мелодиях, творчество Глинки доходит непосредственно до каждого человека: в нем поет сердце.

Глинка не стремился к искусным подражаниям народным песням. Он носил в своем могучем таланте песню, как свой родной язык и как родной язык музыки народа. Задушевность и чуткость к человеку, глубокое постижение красоты и изумительное по вдумчивости и по тонкости вкуса композиторское мастерство — в этом сочетании весь Глинка, гений русской музыки.

Академик Б. В. Асафьев

ЛИБРЕТТО ОПЕРЫ

ДЕЙСТВИЕ ПЕРВОЕ

Картина первая

Ранняя осень 1612 года. Войска польских панов еще не изгнаны из пределов Руси. Их отряды рыщут в поисках добычи по всему краю. На защиту Родины повсюду поднимается народ. Один из отрядов местного ополчения проходит через село Домнино, в котором живет Иван Сусанин со своей дочерью Антонидой и приемным сыном Ваней. Крестьяне с великой любовью встречают своих защитников, преподносят им брагу, хлеб и мед:

Бойцам от нас земной поклон!
Бойцам мы бьем челом!

Голоса крестьян и ополченцев сливаются в мощном хоре, вспоминающем героические битвы русского народа на Чудском озере и Куликовом поле:

Кто на Русь дерзнет,
Смерть найдет!
Беда неминуемая врагам!
Беда всем незванным злым гостям!

Крестьяне уводят ополченцев в свои избы на отдых. Многие встретили своих родных и друзей.

Только Антонида не дождалась своего суженого. Но сердце ее полно надежды:

Минет грозный год,
Сгинет горя гнет,
Радость ясным солнышком взойдет...
Скоро ясный сокол прилетит...
Скоро свадьба!

В это время из избы выходит Сусанин с крестьянами, ведя беседу. Что гадать о свадьбе? Горю нет конца!.. Силы есть у нас, да кто их соберет?

С реки раздается песня. Это возвращается Богдан Собинин после удачной схватки с вражеским отрядом. Он рассказывает об этой схватке и сообщает, что Козьма Минин поднял Русь. князь Пожарский призван войско возглавлять. Крестьяне восторженно принимают эту весть. Но тревожные думы не покидают Сусанина и, когда Антонида тайком спрашивает его о возможности свадьбы, он отвечает отказом. Антонида спешит шепнуть об этом жениху. Богдан прерывает свой рассказ и спрашивает Сусанина:

Как, ужели не бывать нашей свадьбе?

Антонида и Богдан упрашивают старика, крестьяне присоединяют к ним свои голоса. Сусанин отвечает:

Настанет день. Врагов побьем
И от злодеев Русь избавим.
Тогда на встречу с женихом
Благословим и свадьбу справим.

— День придет! — отвечает Богдан. — Недолго ждать! Ляхи в осаде. Скоро здесь будет Минин. Вместе с ним в поход пойдем мы!

Сусанин восклицает: — Вот встает над Русью заря спасенья! Голоса всех сливаются в радостном хоре:

Хлебу рост земля дает.
Войску мощь дает народ.

ДЕЙСТВИЕ ВТОРОЕ

Картина вторая

Тронный зал во дворце Сигизмунда. Король торжествует победу. Вместе со своей женой Констанцией и сыном Владиславом он дает пир своим рыцарям и шляхте.

Русские богаты! Весь их край — земной рай. Паны мечтают навсегда овладеть им. Танцы сменяются один другим: за краковяком следуют вальс и мазурка.

Внезапно появляется вестник и сообщает, что русский народ восстал на поляков. Минин и Пожарский возглавили ополчение и грозят скорой гибелью отрядам Сигизмунда, осажденным в Москве.

Смятение охватывает пирующих. Раздаются голоса: — Гибель близка! Но Сигизмунд отправляет рыцарский отряд с приказом отрезать путь Минину на Москву, захватить его в плен, снести деревни, сжечь города и навсегда покорить Русь.

«С Москвою короткая будет расправа!»—так думают рыцари и шляхта и продолжают пир, чувствуя Сигизмунда.

ДЕЙСТВИЕ ТРЕТЬЕ

Картина третья

Изба Сусанина. Ваня вспоминает о том, как он осиротел и как его пригрел в своей семье Сусанин. Входит Сусанин с радостной вестью — ночью пришел Минин с войском:

В шлемах пришли, в кольчугах...
Вот она, силушка Родины нашей!

Минин раскинул свой стан в глухом бору, в посаде. Ваня рвется в бой. Да и Сусанин еще может биться:

Стар и млад
Станут в ряд,
Выйдут вместе в поле брани
Мы с тобою рядом станем.

В избу заходят крестьяне. Все село радуется предстоящей свадьбе. Сусанин угощает дорогих гостей и зовет их на вечерину. По уходе крестьян Сусанин благословляет нареченных. Их голоса сливаются в пении, полном радостной надежды на счастье Родины и семьи.

Уже вечереет. Пора накрывать стол. Собинин уходит за друзьями. Ване жалко расставаться с названной сестрой. Сусанин высказывает дочери ласковые пожелания.

Вдруг Ваня слышит конский топот. Кто это? Антонида выбегает взглянуть и возвращается с криком: — Беда! Беда!

Входит отряд вооруженных поляков и набрасывается на Сусанина с допросом:—Где Минин? Где его стан? Сусанин отвечает, что ему ничего неизвестно; у него сегодня свадьба, гости. Поляки с угрозами требуют, чтобы он вел их к Москве.

В Москву дороги нет чужим!

Обнаженные сабли сверкнули над головой Сусанина. Враги слышат гордый ответ Сусанина:

Страху не страшусь,
Смерти не боюсь.
Лягу за родную Русь!

Ляхи решают подкупить Сусанина. Пока они совещаются, Сусанин успевает незаметно для них послать Ваню в посад к Минину. Когда враги предлагают ему золото, он притворно соглашается вести их: «— А деньги я потом возьму».

Сердце дочери чует недоброе. Антонида бросается к отцу. Сусанин прощается с ней. Вражеский отряд уводит с собой Сусанина. Антонида падает без чувств.

За сценой раздаётся девичий хор. Песня утешает невесту, плачущую при разлуке с родным домом. Подруги входят. Антонида рассказывает о том, что случилось. Подруги ее утешают.

Возвращается Богдан с друзьями. Узнав, что вражеский отряд увел отца, Богдан решает немедленно пуститься в погоню. Крестьяне вооружаются и выступают в поход с боевой песней:

Всех врагов земли своей
Смертью покараем,
И не примет их костей
Мать земля сырая!

ДЕЙСТВИЕ ЧЕТВЕРТОЕ

Картина четвертая

Посад в глухом бору. В метель мчался Ваня к посаду, исполняя наказ Сусанина. Обессиленный, он добрался до ворот посада. — Отоприте! — кричит он, стучась в ворота.

На его зов выходят воины и посадские люди. Ваня требует, чтобы немедленно дали знать Минину о приходе врагов. Выходит вооруженная дружина во главе с Мининым. Минин берет Ваню проводником, и войско идет в бой с грозной песней:

Мы настигнем врага!..
Не бывать им живым,
Не видать им Москвы!

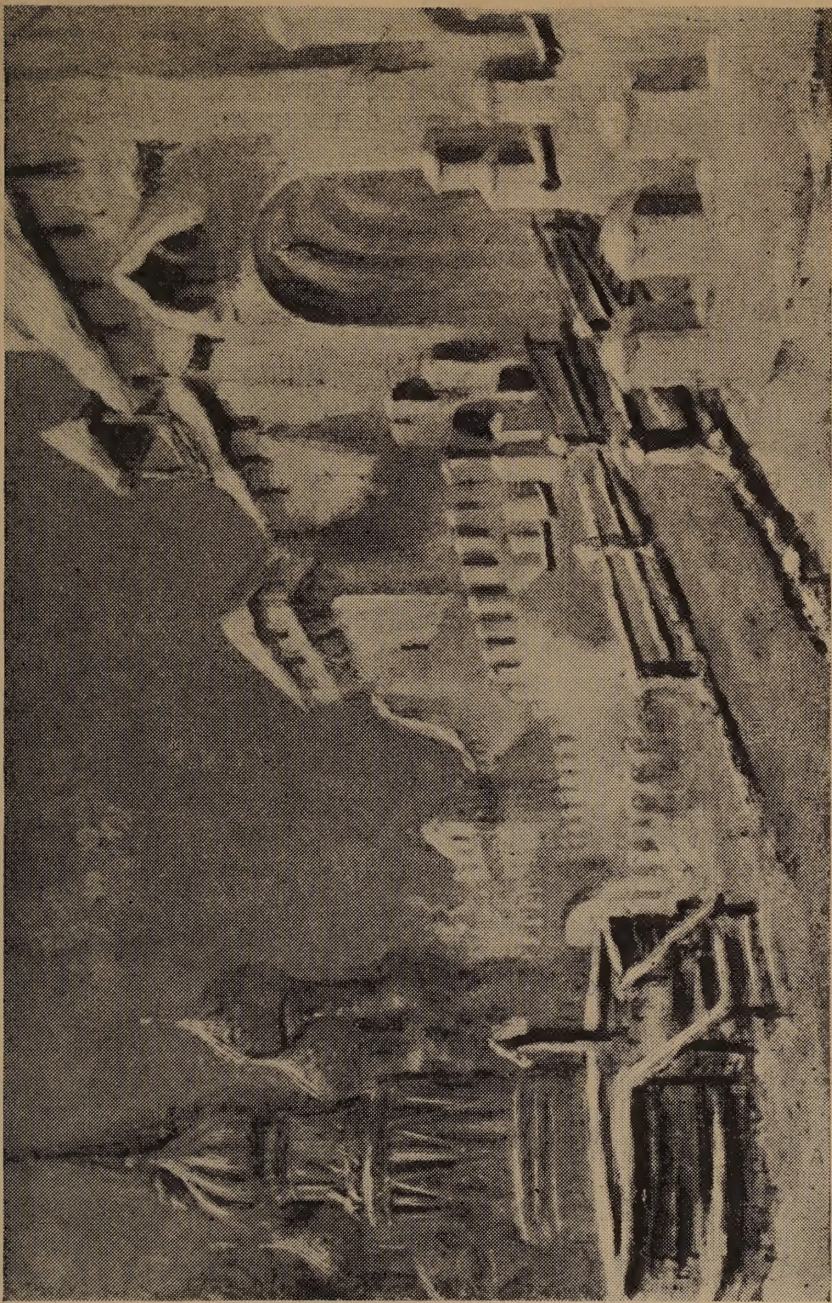
Картина пятая

Лесная глушь. Уже не видно тропы, а Сусанин ведет отряд все дальше в лес. Все устали и продрогли. — Не сбился ли проводник с пути?

— Путь мой прям! — отвечает Сусанин.

Поляки разводят костры и ложаться отдыхать.

— Чуют правду... — думает Сусанин. — Смерть близка! Взойдет заря, и в последний раз он взглянет на нее. С нежной любовью вспоминает он свою дочь, ее жениха и Ваню. Надо отдохнуть, надо встретить смерть спокойно. Он ложится на снег. Бушует сильная вьюга.



Эскиз декорации пятого действия 6-й картины
Художник П. В. Вильямс

Sketch of the Decorations of the Sixth Act
Painter P. V. Williams

Враги просыпаются. Они будят Сусанина и требуют ответа, куда он завел их.

— Туда, — отвечает Сусанин, —

Где вам от лютой вьюги погибать.

Где вам голодной смертью помирать.

Сусанин погибает, как герой, с именем Родины на устах:

О, Русь моя!

ДЕЙСТВИЕ ПЯТОЕ

Картина шестая

Красная площадь у Фроловских (Спасских) ворот Кремля. Сцена наполнена ликующим народом. Впереди Антонида, Ваня и Богдан.

Народ поет:

Славься, славься ты, Русь моя,
Славься ты, русская наша земля!
Да будет вовеки веков сильна
Любимая наша родная страна!
Славься, славься из рода в род,
Славься, великий наш русский народ!
Врагов, посягнувших на край родной,
Сражай беспощадно могучей рукой!
Славься, славься, родная Москва,
Славься, великой страны глава!
Живи, возвышайся на радость нам,
На счастье народам, на гибель врагам!

Из Кремля выходит торжественная процессия, встречаемая восторженными возгласами народа. Появляются Минин и Пожарский. Победная песня народа сливается с колокольным звоном.

MIKHAIL GLINKA, the great national Russian composer, was born in 1804 and died in 1857. His greatest works are the two operas, "Ivan Susanin" (composed in 1836) and "Ruslan and Ludmilla" (1842), the latter being based on the subject of Pushkin's poem of the same name.

These two classical works of Russian music wholly preserve both refreshing wealth of thoughts and musical fantasy abounding in thrillingly lilting melodies, beauty of harmony and plasticity of form. A particularly notable feature in Glinka's opera music are the choruses—a mighty, cohesive ensemble of human voices, musical image of a great people. The famous "Glory"—an inspired hymn consummating the opera "Ivan Susanin," was a genius-inspired idea of Glinka's embodying in the powerful vibrancy of the chorus the strength and unswerving will of a talented people and of the state they have built up. The orchestra of Glinka is aglitter with virile force and exquisite taste in the choice of instrumental shades. The fact that one senses the inner life—the pulse of the music—when listening to the Glinka orchestra is the most commendable feature of the skilful instrumentation by this great composer—the orchestra sings and breathes.

Glinka did not write many works. There are the overture-fantasias for orchestra (the colourful "Jota Aragonesa" and "Night in Madrid," based on Spanish themes), "Kamarinskaya"—a fantasy on folk motifs, and the music to N. Koukolnik's play "Prince Kholmisky"; a cycle of excellent romances to verses by Russian classic poets, contemporaries of Glinka. A few instrumental miniatures (including a piano trio) and a number of small pieces for piano. All these works have that clarity of melodic pattern and exquisiteness of expression inherent to Glinka's gifts as a composer.

Beginning with the Overture, the music of "Ivan Susanin"

speaks of the straightforward character and unswerving will, the courage and the strength of Russians. The feeling for Motherland is the motivating force. It is the mainspring of thought in the whole action of how a simple Russian peasant becomes a national hero and of how the heart of every Russian beats with a desire to do feats of valour at the first call of circumstances.

Glinka's throbbing, deepset feeling for Motherland and a responsive understanding of the Russian heart arouses the most beautiful and loftiest thoughts of humaneness in man in his music too. It is by this content, expressed in wonderful melodies, that Glinka's music reaches to the heart of each person, for in this music it is the very heart that sings.

Glinka does not pursue virtuoso imitations of folk songs. In his mighty talent he carried song as he did his native tongue and the native idiom of the music of the people. Heartfelt sincerity and responsiveness towards man, a profound understanding of the beautiful, an astonishingly thoughtful and tactful taste, and mastership of composition—it is a fusion of these traits that gives us the figure of Mikhail Glinka—the genius of Russian music.

Academy Member Boris Assafiev

SYNOPSIS

Act I Scene 1

Early autumn in the year 1612. The troops of the Polish nobles have not yet been expelled from Russia. Bands of them are roving through the land in search of booty. Everywhere the people rise up in defence of their country. One of the detachments of the local Popular Levy passes through the village of Domnino where Ivan Susanin lives with his daughter Antonida and his adopted son Vanya. The peasants greet their defenders affectionately, treat them to home-brewed ale, bread and honey.

"Greetings and welcome to our warriors!"

The voices of the peasants and the soldiers merge in a mighty chorus recalling the heroic battles of the Russian people on Lake Peipus and the field of Kulikovo.

"He who dares attack our Russ
Will meet his end!
Grief shall befall the foe
And all who come with evil intent!"

The peasants lead the soldiers of the Popular Levy away to their huts to rest. Many of them have found kith and kin among the soldiers.

Antonida looks in vain for her betrothed among the soldiers. Her heart is full of hope; however:

"The days of dread will pass,
And sorrow's burden vanish.
The happy sun will rise again
And my lover will come back..."

Meanwhile Susanin comes out of the house, talking to the peasants. "Is this the time to talk of a wedding when the land is plunged in grief?... We have plenty of forces but who will gather them together" he says.

Strains of a song are heard from the river. Bogdan Sobinin, Antonida's betrothed, is returning from a successful encounter with an enemy detachment. He tells the peasants of the battle

and informs them that Kozma Minin has rallied Russia, that Prince Pozharsky has been placed in command of the Popular Army. The peasants are overjoyed at the news. Susanin is still filled with anxiety, however, and when Antonida takes him aside to ask him whether her wedding can take place he answers with a refusal. She hastens to whisper the answer to her betrothed. Bogdan who has been telling the peasants about his encounter with the enemy, interrupts his story to ask Susanin:

"Can our wedding, then, not be held?"

Antonida and Bogdan implore the old man to consent to their marriage and the peasants join their entreaties to those of the young couple. Susanin replies:

"The day will come. We shall crush our foes,
And liberate our land.
Then shall you have the wedding,
And with it, my blessing."

"That day will come!" exclaims Bogdan. "'Tis not long to wait now! The Poles are besieged. Minin will soon be here. We will join his army and go off to fight with him!"

Susanin exclaims, "Then the dawn of salvation will rise over Russia!"

The voices of all join in a joyous chorus.

Act II

Scene 2

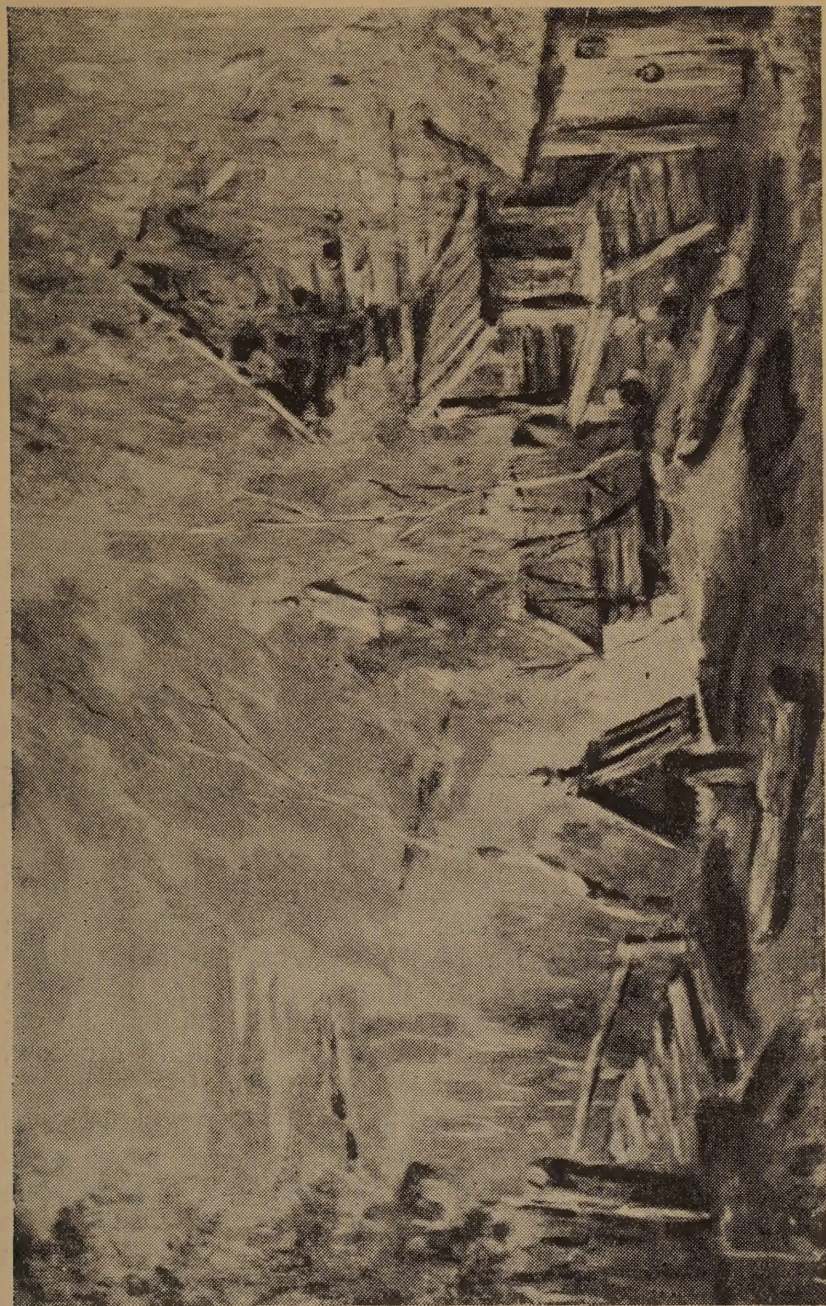
The throne room in Sigismund's palace. The King is celebrating victory. Together with his wife Constanca and his son Wladislaw he gives a feast for his knights and warriors.

The Russians are rich! Their whole land is a paradise on earth. The Polish nobles have visions of conquering this paradise for all time. The guests begin to dance, the crakowiak is followed by a mazurka and then comes a waltz.

A messenger suddenly appears with news that the Russian people have risen up against the Poles. Minin and Pozharsky have taken their places at the head of the Popular Army and threaten Sigismund's troops, besieged in Moscow, with speedy destruction.

The revellers are thrown into confusion. Shouts are heard, "Peril is at hand!" Sigismund, however, dispatches a legion of his knights with orders to intercept Minin's army on the road to Moscow, take Minin prisoner, raze the villages, burn the cities and subjugate Russia once and for all.

"We will make short shrift of Moscow," so think the nobles and continue their revels, singing the praises of Sigismund.



Эскиз декорации первого действия
Художник П. В. Вильямс

Sketch of the Decorations of the First Act
Painter P. V. Williams

Act III
Scene 3

Susanin's hut. Vanya recalls how he was orphaned and how Susanin took him into his home. Susanin comes into the hut with joyful tidings — Minin has arrived with his troops this night.

"In helmets and coats of mail they came,
The strength of native Russ!

Minin has struck camp in a village set in the midst of a dense forest. Vanya is impatient to join the army and go into battle. Susanin also feels that he is not too old to fight:

Old and young
Will join the ranks
And fight on the field of strife.
You and I will stand together.

Peasants come into the hut. The whole village is happy that the wedding is to take place. Susanin welcomes his guests and invites them to the wedding feast that evening. After they leave the hut he blesses the betrothed pair. Their voices merge in a song filled with joyous hope for the happiness of country and family.

Evening is drawing near. It is time to lay the table for the wedding supper. Sobinin leaves to bring his friends to the wedding. Vanya tells his foster sister how sorry he will be to part with her. Susanin wishes his daughter well in her new life.

Suddenly Vanya hears the tramp of horses. Who can it be. Antonida runs out to look and returns with a cry "Woe to us!"

A detachment of armed Poles enters the house. They begin questioning Susanin. "Where is Minin? Where is his camp?" Susanin replies that he knows nothing about Minin, that there is to be a wedding at his home that evening and that he expects guests. The Poles demand that he lead them to Moscow, threatening him with punishment if he refuses.

"For strangers there are no roads to Moscow!"
Bared sabres flash over Susanin's head.
The foes hear Susanin's proud reply:
"I am not daunted by fear,
I fear not death,
For my native Russ I'd give my life!

The Poles decide to bribe Susanin. While they confer, Susanin succeeds in sending Vanya off to warn Minin in his camp.

When the Poles offer him gold he pretends to agree to their proposal to lead them to Moscow, saying that he will take the money later.

Antonida is filled with misgivings and runs to her father. Susanin takes leave of her. The Poles depart, taking Susanin with them. Antonida falls to the ground in a swoon.

A chorus of girls' voices is heard off stage. It is a traditional song consoling a bride who is sad at leaving her home. Antonida's girl friends come into the house. She tells them what has happened. Her friends comfort her.

Bogdan returns with his friends. Upon learning that an enemy detachment has carried off his bride's father, he resolves to set off in pursuit immediately. The peasants arm themselves and march off singing:

We shall deal death
To all foes of our land,
And the soil will
Spurn their very bones!

Act IV Scene 4

A village in a dense forest. Carrying out Susanin's behest, Vanya has braved the blizzard to reach the camp in the walled-in village. He knocks at the gate, crying "Open, open!"

Some soldiers and villagers come out in answer to his shouts. Vanya demands that Minin immediately be told of the foe's arrival. An armed detachment with Minin at its head comes out. Minin takes Vanya with him as a guide and the troops march off to battle with the martial refrain:

We'll trap the foe! ...
Not a man of them
Will ever look on Moscow!

Scene 5

A dense forest. No trails are visible but Susanin leads the detachment of Poles further and further into the woods. They are weary and cold and are beginning to think that their guide has lost his way.

"My path lies straight before me," Susanin says in answer to their queries.

The Poles light campfires and settle down to rest.

"They suspect the truth," reflects Susanin. "Death is at hand. The dawn will come and I shall gaze upon it for the last time." He tenderly recalls his daughter, her betrothed and Vanya. He must rest in order to meet death calmly. He lies down on the snow. A strong wind is blowing.

The Poles awake and rouse Susanin. They demand to know where he has lead them.

"There," Susanin replies.

There where you will perish in snow and storm,
There where you die unknown

Susanin dies like a hero with the name of his country on his lips.

Act V Scene 6

The Red Square before the Frolovsky (Spassky) Gates of the Kremlin.

The stage is filled with people celebrating victory. In the foreground are Antonida, Vanya and Bogdan. The people sing:

"Glory, glory, Russia mine,
Glory to Russian soil...!

A triumphal procession emerges from the Kremlin, met by the rapturous shouts of the people. Minin and Pozharsky appear. The victorious song of the people merges with the pealing of bells.

Minutes of the Conference on the future of the

I.S.S.S. held at the Dokuchaiev Soil Institute,

Moscow on 18-th June, 1945.

There were present - Dr. C.E. Kellogg, U.S.A.,
Dres W.G. Ogg, E.M. Crowther, A. Muir,
Gr. Britain; Dr. A. Demolon, France; Drs Profs
L.I. Prassolov, B.B. Polynov, A.A. Yari-
lov, S.A. Zakharov, D.G. Vilenisky,
I.E. Antipov-Karataiev, V.A. Kovda,
I.P. Gerasimov, N.I. Gorbunov.

Chairman Prof. Dr. Prassolov; Secretary Dr.
Gerasimov.

Prof. Demolon, Vice-President of the I.S.S.S.
made a statement about the activities of the presidium du-
ring the war and he said that at the beginning of the war he
asked the general secretary of the I.S.S.S. to keep in being
the Int.Soc. and to use the Society's means to publish the
transactions of the two conferences held before the war -
Stockholm and Bangor. This view was not accepted and the
Proceedings of the Society continued to publish various gene-
ral communications in full. As a result of the death of the
president Dr. Schucht the question of the election of a new
president was raised. Dr. Demolon suggested that
this should be postponed, but Prof. Giesecke was proposed and
his appointment confirmed without the consent of other natio-
nal sections and in particular in spite of the disapproval
of the French and British sections. Dr. Demolon, the-
refore, considers that all decisions taken during the war

should be disregarded. Prof. D e m o l o n declared that 140
he had nothing to do with any actions of the secretariat and
takes no responsibility for any of them. Since this meeting
contains representatives of the principal national Sections -
USSR, USA, United Kingdom and France. Prof. D e m o l o n
thinks it necessary to make a decision on scientific coopera-
tion in Soil Science, and to dissociate outelves completely
from the wartime activities of the Presidium of the I.S.S.S.

Dr. O g g proposed that the old I.S.S.S. should
meantime be given up and Dr. C r o w t h e r suggested that
scientific cooperation should be renewed in an Association of
Soil Scientists of the United Nations. Dr. K e l l o g g
also supported this, and said that there was already a sug-
gestion for the formation of an ~~International~~ American Soil
Science Society, but in his opinion a wider association of soil
scientists, embracing all the countries of the United Nations
is absolutely essential. It would be necessary to consult the
various national organizations.

In the further discussion of this question the follo-
wing took part: L. P r e s s o l o v , E. B. P o l y n o v ,
A. A. Y a r i l o v , D. G. V i l e n s k y , I. N. A n t i -
p o v - K a r a t a i e v , V. A. K o v d a , S. A. Z a k h a -
r o v ; they agreed to the proposals and suggested certain ad-
ditions. In particular, they suggested that for the organiza-
tion of scientific cooperation among the ~~Assoc~~ Soil Scientists
of the U.N. use might be made of possibilities presented by the
celebrations of the 100-th anniversary of the birth of V. V. Do-
kuchaiev, the founder of modern Soil Science, which will take
place in 1946. The preparatory work of establishing connexions

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among the various national soil organizations of the U.N., the formulation of the rules, and a decision about the location and time of a congress of soil scientists of the U.N. should be completed by that time.

For the publication of the necessary information use might be made of the journals *Pedology*, *Soil Science*, *Annales Agronomiques* and others. To carry out this work it is essential to appoint a temporary Executive Committee.

- - - - -
R e s o l u t i o n s .
- - - - -

1. It is necessary completely to disassociate the new organization from the war - time activities of the presidium of the I.S.S.S. All decisions taken by that body, including the appointment of Giesecke as the new president, are considered null and void.
2. The need is recognized for the renewal of scientific cooperation of the national soil science organizations of the U.N. in the form of an Association of Soil Scientists of the U.N.
3. A temporary executive Committee should be formed to include: USSR - Profs Drs B.B. Polynov, D.G. Vilensky; USA - Drs Charles E. Kellogg, Richard Bradfield; Great Britain - Drs W.G. Ogg, E.M. Crowther; France - Drs A. Demolon, Oudein. The secretary of the Committee will be Prof. Vilensky. Prof. Yarilov as one of the oldest pedologists will be included in the Committee and charged with calling the first meeting of the Executive Committee.
4. The temporary Executive Committee will establish contact with the national ^{organizations of} soil scientists of the U.N. and if they agree, will work out the rules of the associa-

tion of Soil Scientists of the U.N., of ~~the~~ the locati-
on and time of the next International Congress of Soil
Scientists. The celebration of 100-th anniversary of the
birth of V.V. Dokuchaiev - 1946 would provide a convenient
occasion for the next meeting of the temporary Executive
Committee.

Acad. M. P. ... *Игорь Александрович Капанадзе*

10.4.1949

Em. Spenther

... *Александрович* ...

Charles E. ...

В. Кармачев
Г. Прудиус

Александрович

исполн *В. М. ...*

June 19

In the morning I visited an experiment station-Dolgoyudnoe Pole-at the edge of Moscow. A great deal, if not all of the work, is under the direction of Academician Priianishnikov. In a general summary statement Priianishnikov explained that 45 kilograms per hectare each of N, P, and K, on the average, gives a 150 percent increase in yield. Larger applications gave even more.

He expressed concern about developing methods for getting at the mono-calcium phosphate in the soil as well as the total phosphorus.

Most of the plants were grown in cylindrical glass jars covered on the outside with cardboard to keep the light from the roots. All the pot experiments were run in triplicate. They showed that metaphosphate does much better on acid soils than on the alkaline ones. It was not good on Sierozem.

Near the main building a pit had been dug in the soil for observation. The landscape is gently undulating. Drainage is slightly imperfect -- fairly well drained only. The parent material is a silty material somewhat resembling the lacustrine silts of northern Ohio. The landscape suggests a till plain, but there were no stones or pebbles in the profile.

A_p - 0-6" brownish gray silt loam

B₁ - 6-9" grayish brown heavy silt loam

B₂ - 9-24" brown clay loam that rubs to a yellowish brown;
angular nut structure with some evidence of mottling

B₃ - 24" brown clay loam, perhaps a little lighter than the above in color; large angular nut structure. The individual aggregates are about one inch in diameter. Some slight mottling.

The pit was not dug beyond the B₃ horizon.

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In the United States this soil would be definitely called
Grey-Brown Podsolis (of the northern part of the zone); also in



Examining a soil profile at Dolgoypudnoe Pole

I saw some field experiments that showed a high yield of
for potassium when the nitrogen was added in the form of ammonia
rather than the nitrate. In such cases there seems to be much
ammonia produced, which causes a large loss. The ammonia is com-
pared to small grains, but it is not possible to see the loss
taking place.

Examining a soil profile at Dolgoprudne Pole

In the United States this soil would be definitely called Gray-Brown Podzolic (of the northern part of the zone); also it would be recognized as having a very slight drift toward Planosol.

A second pit was examined in a similar landscape, possibly a little less well drained, located within a second-growth forest that was being pastured. The forest consisted mostly of balsam fir and white birch.

- A₁ - 0-2" dark gray silt loam with many fibrous roots; easily friable to a soft friable granular mass.
- A₂ - 2-9" brownish-gray silt loam that is distinctly gray when dry; fairly well developed platy structure.
- B₁ - 9-12" transitional.
- B₂ - 12-30" brown silty clay with medium angular nut structure.
- B₃ - transitional.
- C - Below about 3 feet. Yellowish-brown clay. In some ways it appears to be lacustrine, but is probably heavy silty drift. There is some mottling with gray in the B and C suggesting the faint development of glei.

This soil is very close to Conover silt loam; in fact, I think we would map it so in central Michigan without much question.

I saw some field experiments that showed a much greater need for potassium when the nitrogen was added in the form of ammonia rather than the nitrate. In sunflowers there seems to be much ammonia produced, which means a larger need for potassium as compared to cereal grains, including corn (according to the interpretation given me.)

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tation given me.)

About three kilometers from the headquarters of the expedition station, and in full view, was a pine white which was the furthest during the winter here. This was made known to the expedition from the north. They had brought to help the expedition.



In a woods at Dolgoy pudnoe Pole

About three kilometers from the headquarters of the experiment station, and in full view, was a pine woods which was occupied by the Germans during the recent war. This was their nearest approach to Moscow from the north. They had brought up tanks and machine guns and occasionally fired at the experiment station, but work continued and none of the experiments was dropped.

Very few of the greenhouses at this station were heated and, of course, they are not used in the winter. There were some laboratories; in fact, Gedroiz did some of his work here and lived in a small house only a few yards from the main headquarters.

About 3 o'clock we were entertained with a "cup of tea", which amounts to an elaborate banquet with toasts and much good fellowship.

In the evening I went with Mr. Bulik to see the Slavonic dances at Tchaikovsky Hall. The program consisted of a series of impressive dances based upon the folk dances of various Slavic groups. The dancers were remarkably good. Their peasant costumes were very beautiful indeed. This hall is relatively new and was built especially for concerts and dances. It has an ancient Greek motif but modern functional structure and arrangement.

June 20

With Mr. Bulik I visited the Timryazev Academy. This is a very large establishment on the edge of Moscow and includes several divisions dealing with various phases of agricultural science. Prof. Prianishnikov first discussed some of the recent things of interest to him that were being developed in this academy.

With increasing potassium and calcium going into the plants there was less nitrate and more ammonia. By plotting the nitrate and ammonia, separately, against potash or calcium on the X axis the curves crossed. (As Prianishnikov says: "one gets scissors.") This is a matter not only of absorption but also of transformation. With increasing calcium and potassium there is an increase in amides in the plants.

He advocates mixing rock phosphate with the whole soil in fertilizing most Podzols, unless the content of aluminum and iron is very high. In such cases the phosphate is localized.

The differences in phosphate responses are more closely related to the soil conditions than to differences among individual crops.

1,725,000 metric tons of superphosphate were being produced annually at the end of the second 5-year plan (1938). But production was seriously curtailed by the war. This amount is only about 15 percent of the P_2O_5 that they really require in their agriculture, and a very large expansion is being planned. They also need a good deal more potash. According to the figures they showed us for 1939, the phosphate supplies of the world in millions of tons were

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Group at the Dolgoypudnoe Pole Experiment Station. At my left is Crowther (Rothamsted); and at my right, Academician Priianishnikov, Ogg (Rothamsted), Demolon (France), Muir (was Scotland, now Rothamsted), and Sakinova ("Jeannie", my interpreter). The tall man in the rear center is Bulik, Zakarov (with short beard) stands behind Muir and Demolon, and Alexandria at his right.

Социалистическая Земледел

участниках и
западных р

Орган Народного Комиссариата Военной

и Н. А. А

Выходит по вторникам,
четвергам, субботам
и воскресеньям

№ 83 (4183)

Четверг,



20 июня группа иностранных учёных, приехавших на юбилейную сессию Академии наук СССР, посетила ордена Ленина сельскохозяйственную академию имени Тимирязева. На снимке: Герой Социалистического Труда академик Дмитрий Николаевич Прянишников (четвёртый слева) беседует с гостями академии.

Фото А. Корукова.

Иностранные ученые в Тимирязевской академии

Вчера группа учёных США, Англии, Франции и других стран — гостей юбилейной сессии Академии наук СССР — посетила Московскую ордена Ленина сельскохозяйственную академию имени К. А. Тимирязева. Гости подробно ознакомились с научными работами коллектива академии.

В Англии хорошо известны труды советской школы почвоведов В. Р. Вильямса. В свое время бывший директор Ротемстедской (Лондон) опытной станции доктор Д. Россель посетил академика Вильямса в Тимирязевской академии. Побывали в этой старейшей высшей агрономической школе и профессор Лемуань (Франция), Алби (Австралия).

На кафедре агрохимии гостей встретил Герой Социалистического Труда академик Дмитрий Николаевич Прянишников. В увлекательной беседе, вызвавшей большой интерес иностранных учёных, маститый академик рассказал о работах в области химизации сельского хозяйства нашей

страны. Гости осмотрели вегетационный домик академика, построенный когда-то К. А. Тимирязевым, а ныне выростивший в огромную лабораторию. В этом домике под руководством Д. Н. Прянишникова коллектив его сотрудников ведёт глубокую научную работу.

Начальник почвенной службы США профессор Келлог, преемник доктора Д. Росселя на посту руководителя Ротемстедской опытной станции, профессор Отт, профессор Алби, профессор Лемуань и другие учёные, покидая академию, поблагодарили её директора профессора В. С. Немчинова за радостный приём.

Сегодня, 21 июня, в 12 часов Академия наук СССР созывает заседание отделения биологических наук, на котором Герой Социалистического Труда академик Т. Д. Лысенко прочтёт для участников юбилейной сессии доклад на тему «Теоретические основы управления наследственностью у растений». Заседание состоится в помещении отделения биологических наук (Б. Калужская улица, д. № 33).

Красные обозы с зерном нового урожая

АШХАБАД. (ТАСС). Колхозы республики начали массовую сдачу зерна государству. На заготпункты ежедневно отправляются красные обозы. Они доставили уже около 4.000 пудов зерна нового урожая.

На Украине началась заготовка овощей

КИЕВ. (ТАСС). На Украине началась заготовка ранних овощей. В Сталинской области заготовлено около 50 тонн зеленого лука, редиса, столовой зелени.

В ближайшее время в Киев, Москву и Ленинград будет отпущена ранняя капуста.

Комбайны вышли на поля

ЧИМКЕНТ. (ТАСС). Хорошие хлеба зреют на полях Южного Казахстана. Болосится и цветет яровая пшеница, наливаются озимые. В аулах и кишлаках заканчиваются последние приготовления к уборке урожая. 12 МТС уже вывели свои комбайны на поля.

ОЦЕСС

Польского подполья в тылу Красной Армии в Белоруссии и Украины

о Прокурора Красной Армии Афанасьева

легии Верховного суда Союза ССР

Со всей возможной тщательностью и объективностью Вы исследовали доказательства вины подсудимых, обвиняемых в совершении тягчайших преступлений.

Я не могу не остановиться на некоторых важных особенностях настоящего судебного процесса. Эти особенности заключаются, на мой взгляд, раньше всего в том, что он происходит в обстановке всемирно-исторических побед Советского Союза и всех объединённых наций, приведших к поражению гитлеровской Германии, злейшего и коварного врага всех свободлюбивых народов. Эти особенности заключаются и в том, что преступная деятельность подсудимых была направлена против нашей доблестной Красной Армии, которая на протяжении всей войны сражалась с главными силами фашистской Германии, против Красной Армии, освободившей польский народ от ига фашистской тирании, против Красной Армии, которая ценой величайших жертв спасла народы Европы от нацистского рабства и гибели. Эти особенности заключаются, наконец, в том, что данный судебный процесс, в известном смысле, подводит итог преступной деятельности представителей польской реакции, борющейся в течение многих лет против Советского Союза.

Именно представителей реакции имел в виду товарищ Сталин, говоря:

«Они предпочитали вести политику игры между Германией и Советским Союзом и, конечно, доигрались... Польша была оккупирована, её независимость — аннулирована, при этом немецкие войска получили возможность, в результате всей этой пагубной политики, оказаться у ворот Москвы».

Отечественная война Советского народа была справедлившей из всех справедливых войн, какие знала история человечества. Её цели были ясны и благородны: это была война за свободу и независимость социалистического отечества, война за освобождение народов Европы от гитлеровского гнета, за уничтожение кровавого фашистского «нового порядка». В этой войне советские люди отстаивали правое, святое дело и отстояли. Отстояли под руководством гениального полководца Красной Армии Маршала Советского Союза Иосифа Виссарионовича Сталина.

Героическая борьба Красной Армии в Отечественной войне навсегда войдет в анналы мировой истории как бессмертный подвиг в борьбе нашего народа против фашистской реакции.

И вот против этой героической армии, против армии-освободительницы, были направлены злодейские замыслы подсудимых.

Из мрачных закоулков своего темного подполья все эти «подпольные министры» и члены так называемого «парламента», Окулицкий и иже с ним, марионетки, игравшие в политику и сидящие сейчас на скамье подсудимых, протягивали свои преступные руки, пытались нанести удар в спину наступающей Красной Армии.

Мы преклоняем свои головы перед светлой памятью сотен офицеров и бойцов Красной Армии, перед сотнями советских людей, убитых и замученных злодеями из банд «Армии Крайовой».

ство» в Лондоне.

Ведущая роль в польском эмигрантском «правительстве» принадлежит господствовавшей в Польше до сентября 1939 года фашистской клике «санации», которая и явилась главной виновницей катастрофы, постигшей Польшу в 1939 году.

После пресловутого майского переворота в 1926 году, будучи правящей партией, санационная клика последовательно проводила фашизацию страны.

Своей внешней политикой правительство Рыдз-Смиглы, Бека впрягло Польшу в колесницу германского империализма. Санационная клика сделала всё возможное, чтобы вбить клин между Польшей и её историческим союзником — СССР. Она привела к изоляции Польши и подготовила немецкому фашизму почву для порабощения страны.

Санационная клика стремилась и стремится сделать послевоенную Польшу форпостом реакции, направленной против СССР.

Господа из Лондона призывали измученный польский народ воздерживаться от борьбы с немецкими захватчиками, «выжидать», как они выражались, — с винтовкой у ноги». Реакционные польские лидеры в своей печати прямо заявляли, что не надо вредить немцам, ибо это помогает Советскому Союзу.

Польские реакционеры стали проводить политику отказа от борьбы с немцами, политику, исключавшую участие широких масс в активном сопротивлении оккупантам.

Замечательные успехи Красной Армии, её приближение к польским землям заставили эмигрантское «правительство» прибегнуть к новым маневрам. Лицемерные директивы частям «Армии Крайовой» о «сотрудничестве» с Красной Армией должны были служить дымовой завесой, скрывающей фактическое обострение антисоветского курса.

Опасаясь, что в «Армии Крайовой» могут принять всерьёз фразы о сотрудничестве с Красной Армией, орган — господин Соснковский «Всхуд» № 17 писал: «Для нас могут в будущем возникнуть самые плачевные последствия, если мы будем поступать искренне в отношении советских властей... Советские войска отнюдь не являются нашими союзниками».

Ещё циничнее высказываются другие газеты и журналы реакционных эмигрантских кругов; они открыто призывали к активной борьбе против Красной Армии.

Через великие муки, через тяжкие испытания прошёл польский народ. Он испытал до конца всю горечь гитлеровского гнёта, испытал на себе людоедскую практику гитлеровцев — практику истребления славянских народов. Но польский народ не покорился. Вопреки политике лондонских профашистских групп польской эмиграции он упорно и настойчиво, героически боролся против своих извечных врагов — фашистско-немецких разбойников.

Польский народ вновь свой вклад в дело борьбы с заклятым врагом славян — гитлеровцами. Советский народ протянул руку братской помощи многострадальному польскому народу. Красная Армия совместно с польским войском освободила Польшу от тяжких цепей гитлеровского рабства. Над гордой Варшавой, над польскими городами вновь взвились флаги Польской республики.

«Учитывая обстановку и политическое положение, в котором Вы оказались связи с успешным советским наступлением, правительство решило, что делегаты правительства, Крайовый Союз министров, аппарат делегатуры, военные и уездные делегаты, а также совет Национального Объединения и руководство партий, не должны представляться советам. Отход на запад возможен...».

Прокурор т. Афанасьев далее сказал: «Таковы прямые директивы эмигрантского «правительства» перейти в подполье, продолжать борьбу против Красной Армии. «Отход на запад возможен!» К вам — пожалуйста, только «не представляйтесь советам», только не прекращайте борьбу против Советского Союза!»

Вот чего требовали господа эмигранты и на основе чего действовали подсудимые.

Польский народ хочет дружбы с Советским Союзом, которая является залогом подлинной независимости Польши, а эти люди, сидящие на скамье подсудимых, этого не хотят.

Государственное обвинение и советское правосудие, разоблачая здесь преступную политику представителей старой реакционной Польши, тем самым помогают — новой независимой, демократической Польше.

Рачкевичи, Соснковские, Арцишевские и всякие прочие «моськи» из кожи лезут вон, чтобы сорвать попытку укрепления дружественных отношений между Польшей и Советским Союзом.

Но эти попытки, как уже показала история, обречены на провал.

Новая, независимая, демократическая Польша взяла твёрдый курс на ликвидацию старой и новой реакции.

Дружба Советского Союза и свободной, демократической Польши растёт и крепнет с каждым днём, и нет такой силы в мире, которая могла бы этому помешать!

Но каким каналам проводилась подрывная работа против Красной Армии и Советского Союза?

1. Организация подпольных вооружённых отрядов «Армии Крайовой» в тылу Красной Армии.

В период немецкой оккупации на территории Польши, Литвы и западных областей Украины и Белоруссии польским эмигрантским «правительством» была создана подпольная военная организация, именуемая «Армией Крайовой» (сокращённо «АК»), которую до сентября 1944 года возглавлял генерал польской армии «Бур»-Комаровский, а после его сдачи в плен немцам, с октября 1944 года — его заместитель бригадный генерал Окулицкий.

Как показал Окулицкий, он в Польшу был переброшен по приказу генерала Соснковского в мае 1944 года на самолёте английского военно-воздушного флота типа «Либейтор» с английской военно-воздушной базы, находившейся в районе Бриандизы (Италия), а до этого выполнял специальные задания Соснковского и Андерса, в частности, организовал диверсионную школу для обучения офицерско-

At the Timryazev Academy

as follows: U.S.S.R. - 7,700; U.S.A. - 5,450; Africa - 4,000; World - 18,400. (I suspect that these figures for the U.S. are too low.)

Prof. Priianishnikov laid a great deal of emphasis on the use of a lupine that grows wild in Canada to replace fallow on Podzol especially. The plant has a very beautiful flower, and so far as I know is only grown for decoration in Canada. They have gotten very large increases in yield with lupines grown in rotation with rye, flax, and barley.

He discussed the addition of aluminum to cultural mediums and found some 60 to 80 percent depression in yield with wheat, and only 10 percent with oats. These were in pure water cultures. There were two sets of pots for each plant and they were changed every day. One set had the aluminum and the other had phosphorus. These greenhouses there also were largely unheated.

Prof. Kovda also has a laboratory at this academy where he is concerned with classification and amelioration of salty soils. As we went into the laboratory he gave me a sample of slightly solonized Chestnut soil which looks very much like those we have in the United States.

In sizing up the problem of a salt area Kovda looks at it from three points of view: (1) geomorphological, (2) ground water and drainage, and (3) salt balance of the whole area and of each individual soil.

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In other deltas, the rivers are trenched enough to serve as natural drainage and rapid desalination can be developed easily. In still other dry deltas the picture is entirely different. Often the salts are found only in the outer parts of the delta.

He has developed manuscript maps for various regions based on the six principal combinations of these conditions.

In irrigation they use the puddled clay to seal the canals. They have had success using it in the dry condition as well as mixing with water. He gave me a book by his predecessor, Rozov, Reclamation of alkali soils, in which many of their practices are described in detail.

After visiting Kovda's laboratory in this institute we went to the one dealing with fertilizers. This section deals with all phases of the problem, including the specialties in all relevant sciences. They have field stations throughout the U.S.S.R. located in such a way as to take account of soil and farming conditions in the several districts. It is the job of this section to develop sound bases for distributing fertilizer according to soil conditions, crops grown, and general agricultural conditions. They are attempting to develop figures for each farm as to the quantity of fertilizers required and how they should be utilized, including their relation

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to mechanization. This section guides the distribution of fertilizers for the State fertilizer industry.

They are now giving emphasis to work on the varying needs of different crop rotations on the several soil types; and also on the need for micro elements, especially in relation to the use of lime. They are studying the availability of phosphorus on different soils and in respect to different crops. Much attention is given to the physical chemistry of all these relationships. They have researches under way dealing with the character and properties of colloids in relation to soil-plant nutritional relationships. They have developed a classification of soil colloids from this point of view. (I did not see this,) They were also making a great many studies of base exchange reactions in relation to the fixation of fertilizers and the release of nutrients to plants. Also they had a considerable project on soil structure with special reference to the growth and activities of micro-organisms.

This section is emphasizing their researches with lime, including the relationship between calcium and magnesium. They did not go into detail at this time, but they pointed out that some corrections were needed in the general theory of Gedroiz.

They also emphasized the importance of pedologists giving a great deal more attention to the investigations of arable land in reference to fertilizer needs. They are making special soil maps and interpretive maps for the guidance of their districts and collective farms. They have already made a great many maps of whole

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In addition to these, they are making a good many special maps in irrigated sections. (See notes on Kovda's work.) On these maps with the interpretations for fertilizer use, they are careful to indicate where rock phosphate can be used.

During the war it was so difficult to supply the necessary fertilizers that they emphasized the use of ashes, manure, and peat. Later I saw these composts on a State farm. They have found that they can add rock phosphate to the compost of manure and double its availability.

We drove around a little bit over the Academy grounds. This is a very large institute with a great many buildings and separate lines of investigation.

In the late afternoon we attended a cocktail party in the American Embassy given in honor of our group, and I had a long talk with Ambassador Harriman, who asked me to visit him alone just before leaving.

After this, I went to an ordinary Russian movie. In the movie houses there are several small rooms each of which shows a different picture. All of the seats are reserved for shows at different periods. The one I attended was not too good. The sound equipment was rather poor.

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June 21

We left rather early and took a trip on the Moscow-Volga Canal on the good ship Stalin. We went out on the canal a considerable distance through the locks. The landscape looks amazingly like the central part of the Lake States -- in the transitional area between the Gray-Brown Podzolic and Podzol soils. There were a good many patches of woods along the lakes and streams with balsam and white birch very prominent. Rye and potatoes are especially prominent among the crops. Apparently great care had been taken to landscape the edge of the canal to make it attractive. A good many vacation boats are used on it. The one we were on was very comfortable but showed some evidence of the need for minor repairs and paint. A great deal of freight is handled on this route, including lots of wood for fuel.

At the furthest distance the boat stopped for a matter of an hour, which gave us an opportunity to walk out into the woods and fields. A great many wild flowers were growing in profusion.

As in our Middle West this year, the farmers around Moscow have been handicapped by a cold, wet season. A great deal of the grain is lodged and late.

We got back to our hotel about 11:30 in the evening. Although the weather was not too good, cloudy and rainy, it was a pleasant and restful day. Every effort had been made for our comfort.

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Иностранные ученые в Почвенном институте

На заседании Ученого совета Почвенного института Академии наук СССР, состоявшемся вчера под председательством академика Л. И. Прасолова, приняли участие иностранные ученые-почвоведы США, Англии и Франции, Герой Социалистического Труда академик Д. Н. Прянишников, научные работники Сельскохозяйственной академии имени Тимирязева, Московского государственного университета, представители Наркомзема СССР.

С докладом выступил член-корреспондент Академии наук СССР профессор Б. Б. Полянов.

Директор Ротамстедской сельскохозяйственной опытной станции (Англия) доктор Отг, директор бюро почвоведения министерства земледелия США доктор Беллог и доктор Демолон (Франция) сделали сообщения о работах, ведущихся в этих странах в области почвоведения.

Иностранные гости подробно ознакомились с деятельностью Почвенного института, его лабораторий и научными достижениями советских почвоведов.

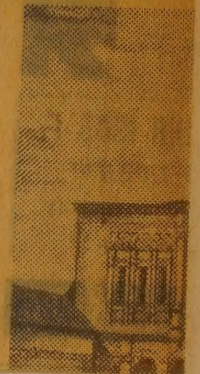
(ТАСС).

Pravda, June 1945

ПРОЛЕТАРИИ ВСЕ

ВЕЧЕР МОСКВА

ГАЗЕТА МОСКОВСКОГО ГОРОДСКОГО КОМИТЕТА



Перед отъездом в Ленинград участники юбилейной сессии Академии наук СССР совершили экскурсию на теплоходах по каналу Москва—Волга. Экскурсанты осмотрели канал и его сооружения. НА ОНИМКЕ; кандидат геологических наук У. Успанов беседует с директором бюро почвоведения министерства земледелия США доктором Беллог.

Фото Е. ТИХАНОВА (ТАСС).



The companion boat to ours - the Vorashilov -
in the locks.

In the forenoon we visited a State farm, a few miles from



A rest at the end of the line on the Moscow-Volga Canal excursion, and conversation with Uspanov of the Kazak Academy of Sciences. Our river boat, the Stalin, is in the background.

the individual gets a share of the produce instead of a salary.

It is said that Lenin himself lived for a time on this particular farm and there developed his ideas for the collective farm.

This farm is divided into four main parts, but as far as I could see the farm was run largely as a unit, although there were

In the forenoon we visited a State farm, a few miles from Moscow called Forest Fields (Lesnyye Polya), organized in 1919. It is a relatively small State farm for the U.S.S.R. but the agriculture is quite intensive. This one had only about 800 hectares, whereas many of the State farms run up to 10,000 hectares. We were told that a State grain farm would have about 40,000 hectares. There are a total of about 5,000 State farms in the U.S.S.R. representing the different conditions and systems of farming.

There are about 270 people working on the farm. There is a total population of 527 in 175 families. Each family has 1.5 hectares for a garden and, in addition, has pasture for one cow and two pigs. (This is about the same as they have on collective farms.)

On these farms the workers are on a salary under an appointed manager. Their salary depends upon the work days they have and on their skill. When the quota for the farm is exceeded they get some additional income, given to them in kind. Thus the State farm is somewhat like a factory; whereas on the collective farm the individual gets a share of the produce instead of a salary. It is said that Lenin himself lived for a time on this particular farm and there developed his ideas for the collective farm. This farm is divided into four main parts, but so far as I could see the farm was run largely as a unit, although there were

several entirely different enterprises. The following table indicates the total collection of plant products for 1944:

	<u>Acreage in hectares</u>	<u>Total yield in metric tons</u>
Perennial grasses (hay)	450	997
Perennial grasses (green fodder).....	50	539
Perennial grasses (grasses on pastures ..	100	1074
Silage crops	50	903
Annual grasses (fodder).....	100	159
Annual grasses (green fodder)	40	392
Various vegetables	20	1021
Fodder roots	20	1400
Potatoes	20	417

This table given me does not include recognition of a large development of young orchards and small fruits. When on a permanent basis they expect to have about 20 hectares of vegetables and 15 of fruit.

The main income from the farm is derived from cattle breeding and dairying. Many of the pure bred cattle raised here are sold to the collective farms. They have now about 393 cattle and 73 horses. Some of these are riding horses, apparently for sale. They also use tractors some (2). Recently they have had to depend largely on manure for fertilizer, which is mixed with peat and compost. They have also been able to get some superphosphate and potassium, and probably will have a good deal more as the industries are reconverted. They now have 185 milk cows that averaged 3,276 liters of milk per cow last year. Before the siege of Moscow their cows were averaging 5,214 liters. On the farm they have an agronomist, a veterinarian, and an animal husbandman. Training courses are provided for the workers.

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The main income from the farm is derived from cattle breeding and dairying. Many of the pure bred cattle raised here are sold to the collective farms. They have now about 393 cattle and 73 horses. Some of these are riding horses, apparently for sale. They also use tractors some (2). Recently they have had to depend largely on manure for fertilizer, which is mixed with peat and compost. They have also been able to get some superphosphate and potassium, and probably will have a good deal more as the industries are reconverted. They now have 185 milk cows that averaged 3,276 liters of milk per cow last year. Before the siege of Moscow their cows were averaging 5,214 liters. On the farm they have an agronomist, a veterinarian, and an animal husbandman. Training courses are provided for the workers.

Every attempt is made to keep their people satisfied so that they can avoid labor turnovers. Over 10 percent of their workers have been on the farm for more than 20 years, and 70 percent have been there for more than 15 years. The veterinarian himself has been on the farm over 17 years.

In winter the workers make mats for covering cold frames, beehives, and do other work. Some of them do some additional supplementary work for pay at home, but not many work in the factories.

Each State farm has its own budget which is a part of the plan. This one has a budget of $3\frac{1}{2}$ million rubles. They were getting 86 kopecks for milk. This year they expect about a million rubles from the milk and about 800 from the vegetables. Any surplus of products, over the plan, is divided one-half to the State and one-half to the people on the farm.

The soil on this farm is much like the better Onamia of the Lake States -- a weakly podzolized sandy loam on glacial terrace. The land is undulating with some suggestion of imperfect drainage in the lower spots. I suspect that meadows and pastures would suffer from drought.

The cows that we saw looked like Frisians, and may have been from stock brought by Peter the Great from Holland. The cows were tested for tuberculosis and the milk is pasturized. The barns were very clean (and I think were placed in especially good shape for our visit), and the cows did look very good. They were in good

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flesh and clean. There was a silo right next to the dairy barn that is filled mostly with grass. It was empty when I was there. They mix nothing with the grass when they fill the silo, but sometimes they use cabbage for ensilage and then add salt. Their pastures were arranged in relatively small paddocks and they practiced rotation grazing, so far as I could see, according to the latest methods. I walked through the woods in which manure and peat are composted in the shade. The woods was nearly pure evergreen and the trees looked like red pine and balsam fir.

We visited some very nice looking young orchards that were well cared for. These included apples and pears. I also saw several large strawberry beds containing a good many different varieties. Apparently some varietal testing was going on and in a few cases the stand was very poor. There was a large planting of black currants, and also a good many raspberries, and some quince. I saw a fairly large planting of cherries of a new cross. At least one parent was said to be a black cherry. The plants had leaves resembling those of sage brush. All of the orchards and fruit beds were very neat and orderly, partly, I believe, in expectation of our visit.

In another area there was a large number of beds about 3 or 4 feet wide and 15 to 30 feet long devoted to vegetables, including cucumbers. Some beds had flowers, dill, and other herbs being grown for sale. Near the vegetable area, there was a medium sized apiary setting in a flower garden. I counted 35 hives. Nearly in the

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center of the houses was situated a large house used as a nursery for the small children. In the morning the mothers bring their children to the nursery where they are cared for during the day by a trained nurse. Each child has a bed and morning and afternoon naps are required; there are the usual play rooms and small tables for eating. All was very clean and orderly. Practically all of the children were asleep when I visited it. In another area that I walked past there was a half acre of tomatoes growing outdoors.

On the farm there were a great variety of fences and small buildings that were not very neat. I saw several little "corners" of wasteland grown up to brush and weeds. But this is not surprising considering the great shortages of material and labor. The central plaza containing a statue of Lenin was solid weeds. The people live in several buildings of various sizes, including one large one that would suggest some sort of manor house. Before we left the manager insisted on showing us several very nicely groomed riding horses.

Just before leaving we had a very fine banquet-luncheon, which I suspect was arranged for in advance and brought to the farm.

We next drove to a collective farm named after the memory of Lenin. For a few minutes we visited district headquarters of this area near Moscow that includes both State farms and collective farms.

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When the collective was first organized they had no fruit gardens. Now they have orchards, small fruits, and large vegetable gardens. (I was amazed at the large numbers of relatively new plantings, many of which must have been made during the war.) This collective, and other collective farms, were organized where there were agricultural villages. It was the "free" land taken from the landlords that was organized into State farms.

The 273 hectares were divided into various sections. They have a considerable space under glass for growing tomatoes and cucumbers. 46 people work with the plants under glass, and 17 people work on seed production. The supervisor of this work was an intelligent appearing, vigorous woman of middle years. 65 hectares are in relatively new apple orchards. Like a good many farms near

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Moscow this one has changed its production from grain over to fruits and vegetables.

On the collective farm the house belongs to the individual. This may be inherited by the children or he may sell it if he wants. A new tenant may buy a house from someone leaving; otherwise he must build his own house. All of the rights of a member of the collective are inherited by the children. The more skilled workers earn more money than the others.

The chairman of the collective is elected by the members, although the general plan for the farm is the responsibility of the State. The plan is developed by regional officials and district officials. If the general plan seems to be unreasonable the collective can appeal for modification to the district officials.

We visited several parts of the farm. They use an interesting kind of soil block for growing small plants, especially cucumbers. They use turf developed on quite highly fertile soil. The grass is removed from the surface of the turf and individual blocks are prepared in a special machine that forces the turf into a hexagonal mold about five inches in diameter. While the piece of turf is still in the mold a cylindrical hole about one inch in diameter is made in the center of the block about two-thirds of the way through it; then by pushing a foot pedal the completed block is forced out of the mold. The holes in the block are filled with peat and the cucumber seed germinated in these blocks that fit together neatly in the cold frames. When the cucumbers are ready

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for transplanting the block is then set in the cold frames or in the field, as the case may be.

I saw fine cucumbers growing in heated glass houses. Bees are kept in the houses. Some greenhouses were used for tomatoes. The tomato plants seemed a little small.

Many cucumbers and tomatoes are grown in beds, and planted rather close together. A good many tomato plants are grown in beds with a spacing of one foot by one foot.

For protecting the beds they use coarse mats made by fastening together small bundles of straw. On this farm they have a large orchard of apples underplanted with gooseberries and strawberries.

We were told that 27 percent of the produce from the farm went to the State as taxes. A small percentage is used to pay for seed, and the remainder is divided among the workers according to the amount and kind of work they have performed. If the plan is exceeded they get, of course, the additional produce. The director gets an allowance of 52 standard work days a month plus 400 rubles. If the plan is fulfilled he gets the produce of 300 extra working days. But the amazing thing is that the produce itself is divided and each worker markets his own products. I explained to them that we would regard this as extremely oldfashioned, and suggested that it would be much more efficient to have a marketing specialist on the farm who would have the special responsibility of knowing when various products would be best received in the markets, looking

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after the grading and packing, and arranging for transportation. Their objection was that one person might want to sell his materials one week and another the next, and that under a scheme of collective marketing he would lose this right of individual decision !!!

Just before we left the farm we went into a peasant's house; it was quite well built with thick walls and enough stoves. The sleeping rooms and living room were small but quite comfortable. The kitchen seemed to me to be very inconveniently arranged and contained no modern improvements of any sort. The house had electric lights but apparently electricity was used for nothing else but the lights.

This farm also had a nice nursery, which we saw, and a first-aid station with a physician and dentist.

In the evening at 9 o'clock I went to the Dokuchaiev Institute in response to an invitation to "share a cup of tea." This was a great understatement since a full banquet was served. There were two French and three English guests besides myself and Mr. Bulik. The members of the Dokuchaiev Institute and advisory members from the other institutes were present. It was a very nice party.

(Item: Someone gave me the following information about the price of pure silk stockings for ladies: On a ration ticket 4 rubles and 20 kopecks, and in the open stores 300 rubles.)

*(A story on these same 2 farms
in 1954 follows)*



State farm—Women comprise 60 per cent of the workers at Lesniye Polyany, which compares to a U. S. agricultural experiment station.

Visit to a Model Collective

(Continued from Page 19)

keted in three ways. There are, first, compulsory deliveries to the Government; second, additional voluntary sales to the Government; and, finally, free sales on the open market. This year, Pamyat Ilyicha sold approximately half of its output to the Government and half on the open market.

FOR compulsory deliveries, which have been drastically reduced since last year's agricultural decrees by the Soviet Council of Ministers and the Central Committee of the Communist party, there are fixed prices. For further voluntary sales to the Government, the farm now receives, instead of fixed prices, 75 per cent of the retail prices of the produce in state stores. These prices are generally, but not always, higher than the farm gets from compulsory sales. The highest rates of all come from sales in the open market, where the law of supply and demand and not official decrees govern the price level.

Just to take one staple product, in early September Pamyat Ilyicha was receiving 30 kopeks per kilogram (2.2 pounds) for compulsory deliveries of potatoes. The retail price in state stores was 50 kopeks, 75 per cent of which would be 37.50 kopeks. And the retail price in the open market was two rubles—that is, 200 kopeks.

When it comes to telling how the members of the collective are rewarded for their labor, Ruzin's abacus chatters louder and faster.

Workers at Pamyat Ilyicha, Ruzin says, have an average of 500 working day units a year. A working day unit is not a measure of time, but of output. For example, the working day unit for a dairy-maid, a member of one of the cattle barn brigades, is fifty

liters (13 gallons) of milk a day, the milk to have an average butter-fat content of 3.8 per cent. If her section of the herd produces 100 liters a day, she gets credit for two working day units. A tractor driver who plows four hectares (10 acres) gets credit for three working days. And so on.

Every worker is required to fulfill a minimum of 150 working day units a year. If he (or she) does less, it is assumed that the worker is devoting too much time to his own personal garden plot, and he must pay double the annual tax of 300 rubles. For each working day unit, a worker at Pamyat Ilyicha received this year: 8.8 pounds of potatoes, 8.8 of vegetables, a pound of fruit, a pound of fodder and eight rubles in cash.

TAKING a representative list of farm products and their prices in state stores, one can calculate roughly that the cash value of a working day unit is 20 or more rubles, or 10,000 rubles a year for the average worker at Pamyat Ilyicha. (For foreign exchange purposes the ruble is valued by the Soviet Government at four to the dollar, but that rate does not necessarily reflect the relative domestic purchasing power of the two currencies.)

In addition to their shares from the collective, the workers each have, under the rules of that particular farm, a private plot of 300 square meters or three-quarters of an acre to use as the individual wishes. On that plot the worker has his own home, and may keep one milk cow, two calves, one sow, ten sheep, ten beehives and as much poultry as he likes. He may grow any crop he wishes or has room for.

The crops and the livestock on the individual plots are for personal use and may be

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either consumed or sold on the free market. The worker may also sell any surplus from his daily earnings of produce.

In addition, collective farmers may receive bonuses if, in the Soviet phrase, they "overfulfill their plan." Each farm and each brigade on the farm has a plan for the year—that is, a production quota. At the end of the year there is a general meeting of the collective to assess the farm's record.

IF the plan has been overfulfilled—and therefore more money earned—25 per cent of the extra earnings goes to the chairman and other executives and specialists. Brigades that have exceeded their quotas get the next bite. The rest is distributed among the rank and file in the form of increased pay.

Aside from bonuses, the chairman receives a salary of 500 rubles a month and gets credit for 100 working days a month. Ruzin says he owns a radio, a television set and a new Pobeda sedan, for which he paid 16,500 rubles last year.

The collective pays income tax at the rate of 8 per cent on its net earnings. Individual members pay the homestead tax and, if they earn enough to be in a tax bracket, the usual income tax. The collective pays 2 per cent of its income from state sales into the farm's mutual aid fund for pensions, disability benefits and relief. The individual also pays 2 per cent of his share from the collective. For each child who is cared for in the crèche while its parents are working there is a charge of 4 per cent of one parent's income from the collective. The fee is calculated on the higher income of the two.

NOW and then, as he runs through these complex figures, Ruzin changes pace to expound on the accomplishments of collective agriculture. He is not only a statistician, but a propagandist, an evangelist for the system in general, his farm in particular and especially for the aims and objects of the new Soviet agricultural drive.

Twenty-five years ago, he declaims dramatically, there were no buildings on the site of Pamyat Ilyicha except the homesteads of the peasants, including his own parents' home, and two country inns. Pamyat Ilyicha, he says, had twenty-seven founding members. In a glass case on his office wall is a book as broad as an atlas in which the deed to the farm is preserved. An imposing document adorned with flourishes of calligraphy, it conveys the land of Pamyat Ilyicha to its members in perpetuity.

Above Ruzin's head is another glass case, a tiny one, enclosing the medal and ribbon of the Order of Lenin, awarded to Pamyat Ilyicha for being represented three successive pre-war years in the great agricultural exhibi-

(Continued on Page 59)



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THE NEW YORK TIMES MAGAZINE

A reporter's inspection of the Pamyat Ilyicha farm near Moscow yields some facts and figures on how state agricultural communities in Russia operate.

By CLIFTON DANIEL

One of Russia's "showplace" collective farms is Pamyat Ilyicha, near Moscow. It is not a typical farm—in fact, it is exceptional, having won the Order of Lenin—but its methods of operation are typical in that they show how collectives throughout Russia produce goods, meet quotas and pay the men and women who work them.

MOSCOW.

ON the Yaroslav highway about seventeen miles north of Moscow stands a wooden building with a façade of startling blue. Beside the building is a full-length statue of Nikolai Lenin (Vladimir Ilyich Ulianov), arm outstretched in an oratorical pose familiar all over the Soviet Union. Anyone who has ever traveled through rural America would recognize the building as a country store, with an apartment, a small meeting hall and an office on the second floor. In fact, the store is publicly owned, and the office is the headquarters of the Pamyat Ilyicha ("In Memory of Ilyich") collective farm founded twenty-four years ago on the anniversary of Lenin's death.

For twenty-two of those years, Osip Ruzin, a former bookkeeper whose parents were peasants in that vicinity, has been chairman of the collective. A man of 61 with a shaven head, horn-rimmed spectacles, and a typical Russian blouse under his blue serge suit, Ruzin receives visitors in his office, and, slapping his hand against the abacus that sits on his desk, rapidly rattles off facts and figures. They are the facts and figures of life and work on a Soviet collective, a Socialist institution that has been described, discussed and argued about for three decades. And now it is being subjected to severe new tests of practicality and productivity by the demand of the high authorities for greater farm output.

THE chairman of Pamyat Ilyicha has the facts of collective agriculture at his fingertips, and with his fingers he deftly flicks the beads of the abacus as he recites the statistics. The staccato clacking of the beads puts an exclamation mark after every figure.

Size of the farm—700 hectares (1,730 acres). Clack! One hundred planted in vegetables. Clack! One-hundred-twenty in potatoes. Clack! And so on for fruit, fodder, turnips and beets, corn, cabbage, pasture and private gardens.

Population of the farm—about 1,000. Clack! Able-bodied adult workers—230 women (Clack!) and 140 men. Clack! The predominance of women, he explains, is due in part to losses of men in the war (Ruzin himself was a major in

the supply services) and to the fact that some men who live on the farm work in near-by factories.

Specialized personnel—seventy, including five agronomists, two of them with university degrees; three animal husbandry experts; one veterinarian; six bookkeepers, fifteen drivers, one plumber and fitter, and, of course, the chairman himself.

Livestock—225 cattle, including 140 milk cows; 250 pigs, including fifty breeding sows; 2,500 chickens; 100 horses; 100 beehives.

Equipment—ten trucks; two small

cars; repair shops; a new cow barn; seven greenhouses, including three big new ones; ten thousand new forcing frames; a potting shed; a steam generating plant for the greenhouses and forcing frames; and so on.

SOCIAL services—a kindergarten; a crèche for fifty children; a clinic with five doctors, who also serve the village; a school, with compulsory attendance for seven years; a club with dramatic circles and other recreational groups; a movie theatre; an orchestra; and a library with 10,000 books.

"We have educated our own intellectual specialists," Ruzin says.

Then he comes to methods of payment for the sale of produce and for sharing the proceeds among the members of the collective. One begins to understand why Ruzin needs the abacus, why there are six bookkeepers in the collective, why cartoons in Kroko dil, the Soviet humor magazine, are always ridiculing farmers who are so busy shuffling papers that they have no time to dig potatoes.

The produce of the farm, Ruzin explains, is mar- (Continued on Page 56)



CATTLE BREEDING is the specialty of the Lesniye Polyany (Forest Glades) Farm near Moscow, which supplies prize animals for the state.



HEADQUARTERS of the Pamyat Ilyicha collective farm (named for Lenin, whose statue is at left) is this building with bright blue front.

CLIFTON DANIEL is the correspondent of The New York Times in the Soviet Union.

(Continued from Page 57)

tion down the highway toward Moscow. Pamyat Ilyicha, whose products are in the fair again this year, is obviously an exceptional Soviet farm.

Ruzin leaves his desk, takes a pointer and goes to a multi-colored map of the farm affixed to the opposite wall. Here, new greenhouses. There, new orchards. In that section, new forcing frames for vegetables. Over there, a new cow barn. Almost every operation on the farm is now mechanized, he says. The hundred horses? They are used in the long Russian winter when tractors and cars are snow-bound. They are also lent to the workers to take their personal produce to market.

THE task of Pamyat Ilyicha under the new farm program is to double its production. In one year, Ruzin says, it has already achieved a 25 per cent increase. Its plan, he explains, calls for the creation of a group of agricultural "factories"—"a vegetable factory," "a milk factory," and so on. And in the fields, waving and pointing, the chairman shows where each new "factory" will be centered.

Across the fields and not far away is another type of farm, a state farm called Lesniye Polyany ("Forest Glades"), which breeds dairy cattle and horses, grows early vegetables and experiments with improving fodders. Its grounds are well kept and its central administrative building, yellow and white in the Russian style, is neat and clean.

In the assembly hall are rows of chairs with fresh linen covers, and around the walls photographs of the Soviet leaders. In one long narrow frame are the pictures of several farm employees who have been decorated as Heroes of Socialist Labor. One of them is Fyodor Ivanovitch Trizno, the present director of the farm, whose two immediate predecessors became deputy ministers in the Soviet Government.

STATE farms generally are engaged in one specialized type of production that the state wishes to promote. Lesniye Polyany's specialty is breeding Kholmogor cattle, a type that resembles the Holstein-Frisian, and raising the yield and quality of their milk. The average yield in its herd of 400 cows is 5,500 liters (1,453 gallons) a year, Trizno says. The milk is sold to state agencies, and the farm supplies breeding cattle to other state farms, collectives and institutions.

Lesniye Polyany also produces its own fodder and breeds both race horses and draft animals. In its stables is a famous Soviet racer, Godach, who once ran the 1,600 meters in 2 minutes 6 seconds, and is now retired to stud.

Unlike Pamyat Ilyicha, the state farm does not share out

(Continued on Following Page)

New-Bea

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Discourage those Blackheads!

Just don't let small blackheads de-glamorize *your* skin! Use this special greaseless treatment for *clearing away* these blackheads. It's recommended by leading skin doctors. It's quick. It's *effective*.

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over

(Continued from Preceding Page)
its produce. It operates on a state budget, like an agricultural experiment station in the United States, and its 300 workers receive cash wages. They live in two-family houses or in state-owned apartments with communal dining halls and five to six square yards of floor space per person.

SIXTY per cent of the workers are women and the average wage for a dairymaid, Trizno says, is 625 to 650 rubles a month. Workers who exceed their production norms get more pay and the best workers earn from 1,000 to 1,500 rubles a month. The director's salary is 2,400 rubles a month, and last year he received an extra 12,000 from the bonuses earned by Lesniye Polyany in "socialist competition" with other farms.

Ivan Markov, a 38-year-old tractor driver who lives in one of the two-family houses and has a broad smile for visitors, says he and his wife have a combined income of 1,500 to 2,000 rubles a month. Her earnings as a farm worker are actually larger than his.

As she is away at work, he is minding their month-and-a-half-old son, their third child. The child sleeps in his arms as he conducts his visitors through his three rooms and the kitchen that the Markovs share with another family. One of the Markovs' rooms is a glassed-in porch. The second is a sitting room with rough though clean embroidered cotton covers on tables and chairs. The third room is the bedroom. The kitchen has a wood stove built into the chimney in a way unfamiliar in the West and a one-ring electric hotplate that stands on a ledge covered with tough brown paper. Water is brought in from outside.

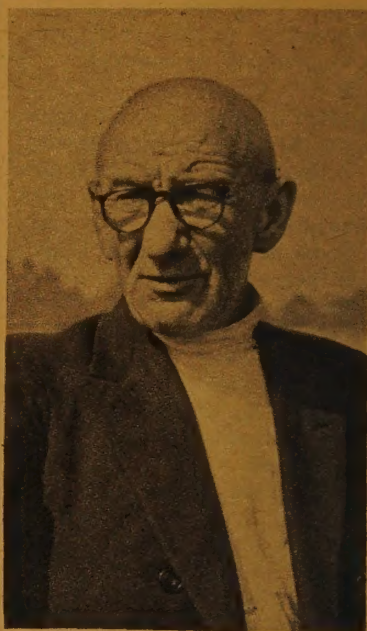
When Markov is asked about a refrigerator, he reports that they are building an underground storehouse for ice that will be cut from the ponds and will last all summer long. As for an automobile—well, he would rather have a television set, and is saving his money.

Back along the highway to Moscow is still another agricultural institution invented in Russia, a machine-tractor station (MTS) whose bright red brick buildings and walls and plots of flowers resemble the premises of a prosperous factory.

Machine-tractor stations provide mechanized plowing, cul-

tivating, harvesting and construction services to state and collective farms, and this one, the Matishchin MTS, serves five farms. It has six tractor "brigades" and employs a total of about 100 persons, including "brigadiers" (brigade leaders), tractor drivers, combine operators and agricultural and animal husbandry experts who assist the farms. It has sixty tractors of various sizes, four grain combines, one hay combine and four potato combines.

The farms served by the MTS have a total area of 4,631 hectares (11,443 acres), of



Chairman of the Pamyat Ilyicha collective farm: 61-year-old Osip Ruzin.

which 2,714 are plowed land. For tending these lands the station receives payment in kind—for example, one ton of potatoes for each hectare. The farm collects seventeen to eighteen tons, says the director, Nicholau Dimitry Akulinin. Construction work, such as the new greenhouses at Pamyat Ilyicha, is paid for in money.

HOWEVER, the MTS does not pocket the cash or sell the produce it collects. That goes to the state and the MTS operates on Government appropriations, like the state farm. Machine-tractor stations in grain regions pay their own way, Akulinin says, but this one, being in a vegetable region where the crops require more attention, does not meet expenses.

As elsewhere, workers at MTS are paid on a piece-work basis, which is complicated by a differential between the summer, when the tractors are busy, and the winter, when they are idle. The workers are paid in cash and in kind, receiving the same amount of produce as other workers on the collectives where they live.

The total value of the station, Akulinin says, is 2,500,000 rubles. The latest addition to its equipment is a large repair shop with machine tools, overhead cranes and a trolley line across its wood-block floor. It is one of eighty such shops erected in the Moscow region this year.

SOLUTION TO LAST WEEK'S DOUBLE CROSTIC PUZZLE

PHYLLIS MCGINLEY: LOVE
LETTERS ("Notes Written on
a Damp Veranda")—

*Invite me to stay for a holiday,
And the rain will follow
me . . .*

*Rain is my lover, my apple
strudel;*

*It haunts my heels like a pedi-
greed poodle.*

*Beyond the seas or across the
nation,*

*It follows me faithful on every
vacation.*

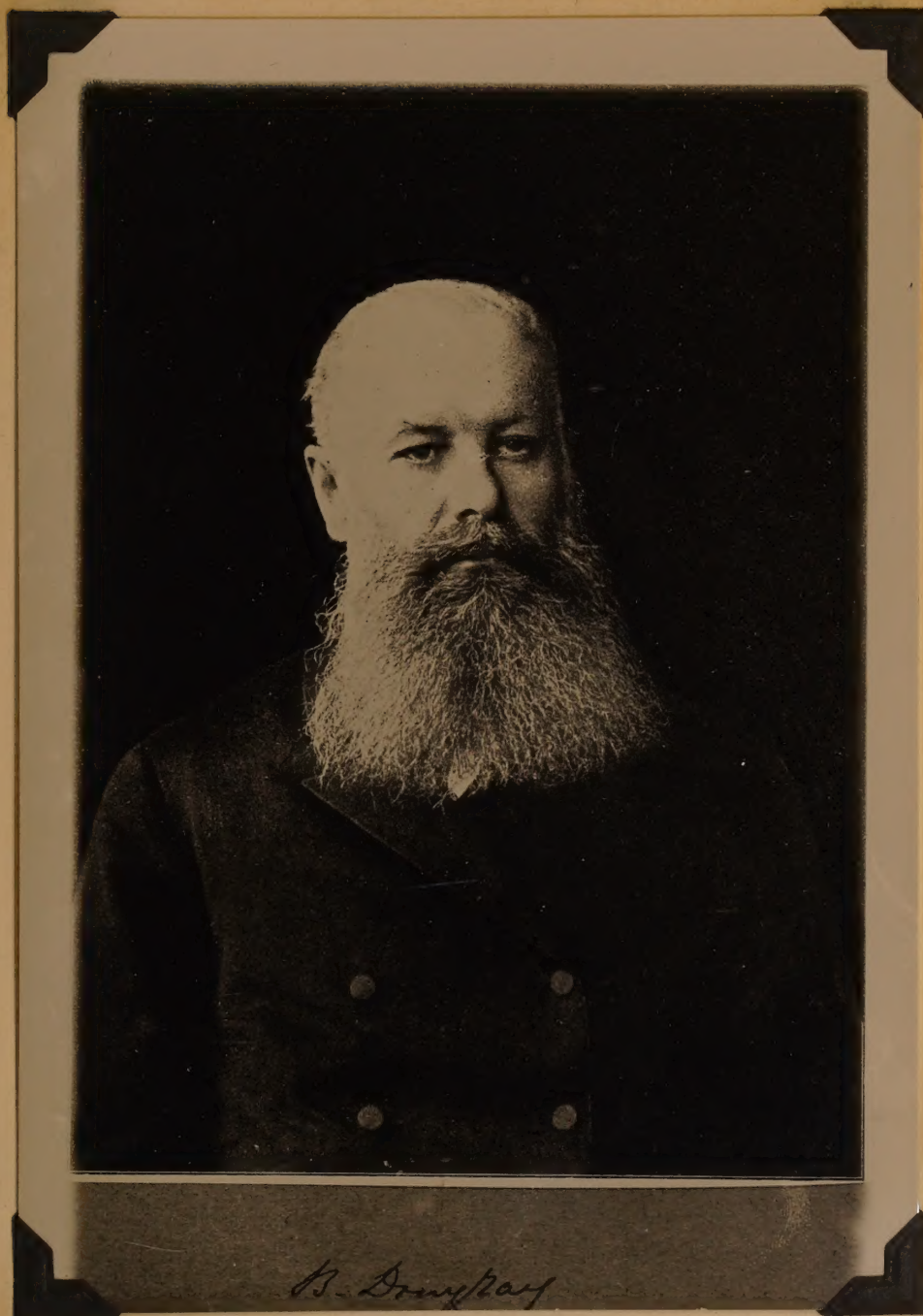
Многоуважаемый.....*Dr C.E. Kellogg!*

Академик Леонид Иванович ПРАСОЛОВ
/Директор Почвенного Института Академии
Наук СССР/ приглашает Вас в помещение
Института/Пыжевский пер.7/ на чашку чая
22 июня в 9 час.вечера по Московскому
времени.

Дирекция Почвенного Института
Академии Наук СССР

ПРИГЛАСИТЕЛЬНЫЙ
БИЛЕТ

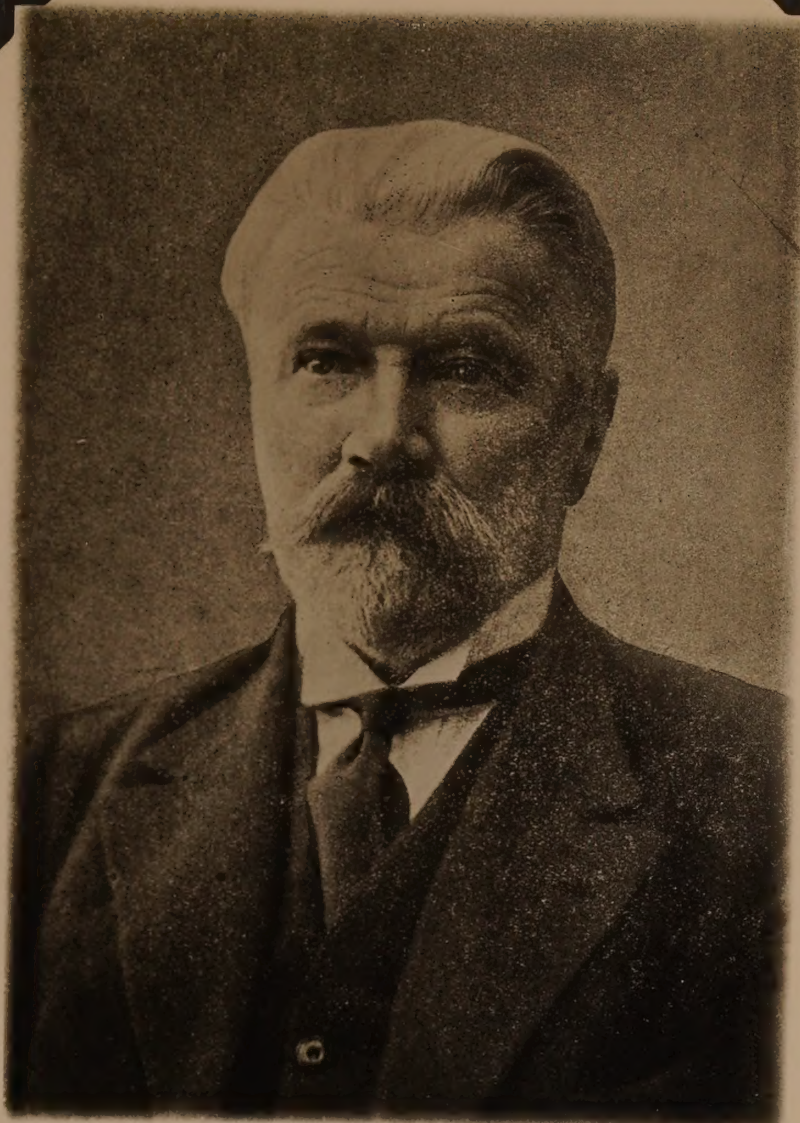
Former leaders of Dokuchaiev Institute



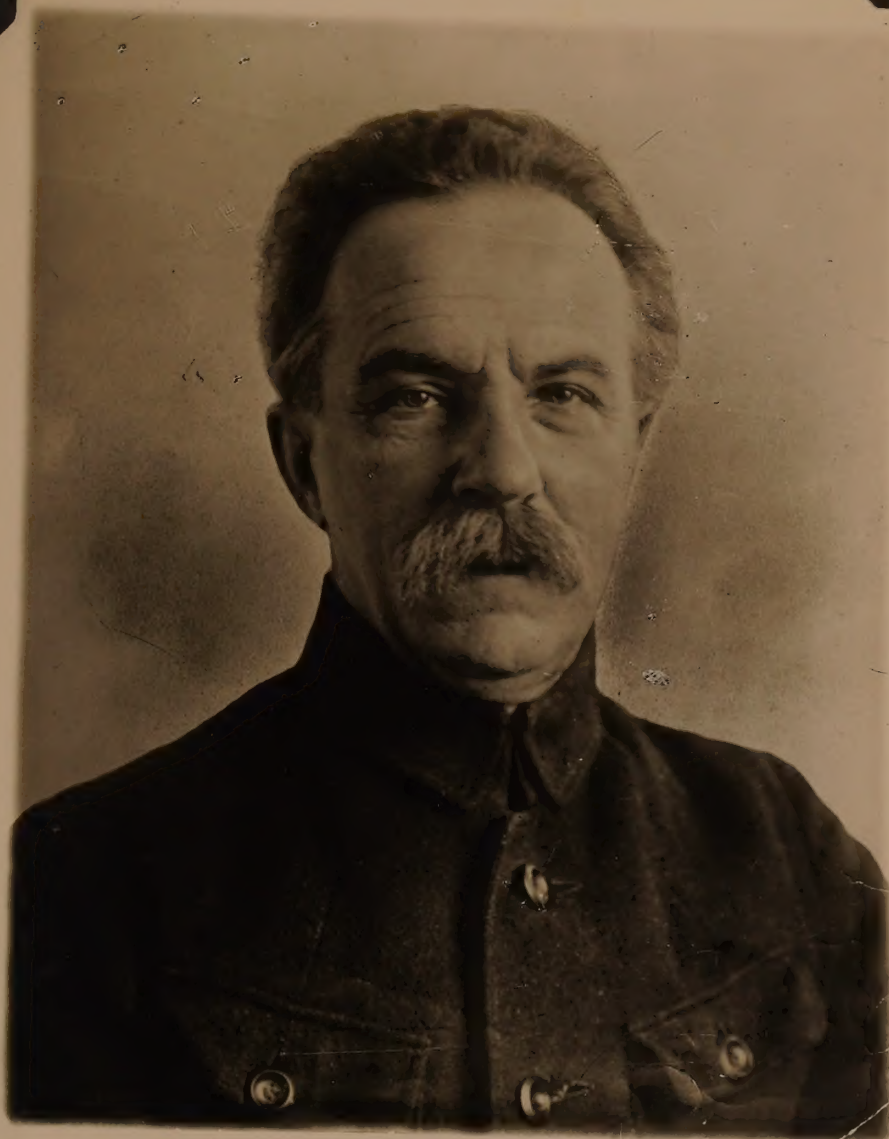
V. V. Dokuchaev



N. M. Sibertzev



K. D. Glinka



Director, Dezhnev Institute, 1945

K. K. Gedroiz



L. J. Prasolov
Director Dokuchaiev Institute, 1945



B. B. Polynov, Dokuchaiev Institute

June 23

In the morning I visited Prof. Vilensky at the University until 11:30. He has a fairly good soil museum containing profiles representative of all of the main soil groups in the Soviet Union, a few small samples from other places in the world, including the United States. He also had a fine collection of rocks and minerals. Above each soil monolith were paintings illustrating the characteristic landscape and type of agriculture.

I noticed that Chernozem soils developed from parent materials high in calcium carbonate, like our Barnes, were called Carbonate Chernozems. There was one serious difficulty with Vilensky's museum: he had used various types of glass as covers for the monoliths and most of it was so badly colored that the characteristics of the soil were obscured until the glass covers were removed. They also had a chemical laboratory and one small one for soil microbiology. The majority of students were young women.

About noon I again went to the Dokuchaiev Institute. Here more was said about the serious problem of reclaiming solonized soil and preventing its development. They have a great deal of work going on east of the Volga. From a point somewhat south of Stalingrad to a point far north of Stalingrad they estimate that about 60,000 hectares are being solonized every year through improper irrigation. Some 300,000 hectares have been recently investigated in the Trans-Volga area. Maps have been prepared to show the order of priority for new reclamation work. A part of this area will be swamped from dams that are now planned.

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All through this research one is impressed with the wide use of a great many sorts of maps. On maps of a scale 1: 10,000 careful studies were made of the salt balance in fields of 100 hectares each. Detailed studies of all solonization of field plots are also made and the results plotted on maps on a scale of 1: 500 to 1: 1,000. A vertical scale for contours is used of 10 centimeters.

On each genetic type of soil being investigated the following items are determined:

1. Absorption capacity
2. Absorbed sodium
3. Percent of absorbed sodium
4. Humus
5. CO_2
6. Total water soluble salts
7. Water soluble salts after irrigation
8. Water soluble humus
9. Different forms of alkalinity -- CO_3 , HCO_3 , etc.
10. Chlorine
11. Sulfate

They study the whole complex of physical properties, including the solid phase, porosity, ground water, unavailable capillary water, total capillary water, air space, wilting coefficient, and permeability to water in the field.

Of course, these investigations are conducted on the individual genetic horizons, and their results show simply enormous differences among the several horizons.

The secondary solonization developed from irrigation of soil of uneven surface is also a matter of intensive investigation.

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215
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After 12 there was a formal meeting of the Institute. Prof. Polynov gave a paper on the soil cycle in which he dwelt particularly on the organization of the mineral elements and the mineralization of organic compounds. He showed that any of the elements may change from one cycle to the other both in dry land and in the ocean. Within the longer cycles are short-run processes which, of course, vary in the different horizons and as the soil deepens. He maintains that there are no sterile weathering processes (?), and that organisms are always involved. He thinks that the elements are absorbed by the organisms and when released are organized into new minerals. He thinks this function of organisms in the formation of minerals has been neglected and needs new emphasis. He stressed the importance of studying the effects of the minerals in the ash of plants on soil formation. Ions that come in contact with the surface of minerals penetrate to the interior of the crystals. (He stated that in the absorption of elements by plants, calcium was almost always in the second place. ?)

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He was followed by Dr. Ogg, the new Director of Rothamsted, who outlined in a great many excess words the details of the administrative setup at Rothamsted. This was dull. Crowther, Head of the Chemistry Department at Rothamsted, followed and explained some old and rather simple ideas with many long and unnecessary words that must have bothered the Russians a good deal. I gave an address that started out with a very brief explanation of the organization of soils work in the United States, and then discussed in some detail how we were attempting to synthesize the results of soil and crop research on the basis of soil types. I explained our concept of soil types and phases in relation to the genetic soil types. Some explanation was given of our productivity ratings and their use in developing farm management plans.

In the afternoon, about 4 o'clock, I attended a general meeting of the Academy at which the problem of exchange of students and professors was discussed. The general importance of such exchanges was seemingly recognized by all of the delegates. In discussing this matter with the soil scientists, I strongly urged that in the years lying just ahead exchanges of young but established scientists be arranged, and not exchanges of undergraduate students.

In the evening the Ambassador's daughter, Miss Harriman, gave a buffet party, in the name of the American scientists, for our Russian friends at Spatza House. I had been able to include 14 soil scientists. There were drinks, a movie, and a nice buffet supper.

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Prof. Dr. Kellogg

23-го июня с.г. в 13 час. состоится заседание Ученого Совета Почвенного Института Академии Наук СССР, на котором будут заслушаны следующие доклады и выступления:

- 1/ Чл.-корр. Академии Наук СССР профессора В.В. ПОДЫНОВА: "ПОЧВЕННЫЙ ЦИКЛ, ЕГО ЗАБЫТЫЕ МОМЕНТЫ И ПЕРСПЕКТИВЫ ИХ ИЗУЧЕНИЯ".
- 2/ Доктора О Г Г /Директора Ротамедской С.Х. Опытной Станции/ - информация о почвоведении в Великобритании.
- 3/ Доктора К Е Л Л О Г /Директора Бюро Почвоведения Министерства Земледелия США/ - информация о почвоведении в Соединенных Штатах Северной Америки.
- 4/ Доктора Д Е М О Л О Н /Руководитель почвоведов Франции/ - информации о почвоведении во Франции.
- 5/ Профессора-доктора В.А. КОВДА: "Типы орошаемых оазисов и мероприятия по борьбе с засолением почв".
- 6/ Профессора-доктора И.Н. АНТИНОВА-КАРАТАЕВА: "О коллоидно-химических явлениях в почвенном профиле".

Институт просит Вас участвовать на заседании Совета.

ДИРЕКТОР ПОЧВЕННОГО ИНСТИТУТА
Академик Л.И. ПРАСОЛОВ.

Верно: Секрет.

А.И. Прасолов

Государственный Академ. Театр Союза ССР  Ордена Ленина Большой

п а р т е р 16 ИЮН 1943

4 ряд № 5 Правая сторона

КОНТРОЛЬ

Государственный Академ. Театр Союза ССР  Ордена Ленина Большой

26 00 18 ИЮН 1943

ложка Венуара № 6

место 1 правая сторона

КОНТРОЛЬ

Ленинградская Гос. Ордена Трудового Красн. Знамени **ФИЛАРМОНИЯ** Л.Г.Ф.

Ул. Бродского, 2 (б. Лассаля) Тел. 74-97 (касса)

Большой зал

Ряд 3 Кресло 8

Цена

ТАЛОН ДЛЯ КОНТРОЛЯ

ГОС. ОРДЕНА ЛЕНИНА АКАД. ТЕАТР ОПЕРЫ и БАЛЕТА им. С. М. КИРОВА Театральная пл., 1

БИЛЕТ

КРЕСЛО 5 ряда № 130 34р

Середина

Дети до 16 л. на вечерние спектакли не допуск. Вход в зрительный зал во время действия ВОСПРЕЩЕН

Контроль

Господину Келлог Чарльз Эдвину

Исполком Ленинградского городского Совета депутатов трудящихся приглашает Вас на прием в связи с празднованием 220-летнего юбилея Академии Наук СССР в Ленинграде.

Прием состоится во дворце им. Урицкого (б. Таврический) 27 июня 1945 года в 19 часов.

Т/Л-1. Зак. 4210.

Стол № 7

Г-ну Келлог Чарльз Эдвин

Президиум Академии Наук СССР просит Вас прибыть на прием делегаций Академий наук союзных республик и иностранных ученых.

Прием состоится в конференц-зале здания Президиума Академии Наук (Б. Калужская, 14)

23 июня в 16 часов.

June 24

Between about 9 a.m. and 1 o'clock I watched the great Victory Parade from a good position on the Tribune near Lenin's Tomb. It rained more or less gently all the time. The Parade itself lasted about three hours following a short talk to the Red Army by Marshall Zuhkov. As he reviewed the troops, a shout would pass among them, timed so that it seemed to move along through the Red Square over the heads of the soldiers. Enormous cannon salutes from inside the walls of the Kremlin shook the very earth.

Representative soldiers had been chosen from each of the great army groups, and were assembled in masses in the Red Square. These marched by the reviewing stand first. Apparently they were the most important medal winners. The first army to pass was the Karelian, which defended Leningrad from the north, the second was the Leningrad, which defended Leningrad from the south, and the third was the Third Ukrainian. A large number of silk German banners captured from some of the famous German regiments were thrown on the cobblestone pavement in front of Lenin's Tomb and marched on by the soldiers. Following the foot soldiers there were large groups of cavalry, motorized infantry, motorcycle troops, machine gun troops, antiaircraft, and all other branches of the military service. Near the end came the huge Stalin tanks moving rapidly, four abreast, over the cobblestone pavement. (I am sure the whole show was very discouraging to the Japanese Ambassador.)

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Apparently every man, woman, and child in Moscow witnessed or took part in the parade despite the weather. The individual marshalls had great difficulty in leaving because of the press of people who wanted to touch them. Certainly they were very proud of the Red Army.

In the evening, about 6 o'clock, we boarded the train for Leningrad. On most of the ride from Moscow to Leningrad one was impressed with the very close similarity of the landscape and farming with that of the Northern Lake States. There is a great deal of wet land and second-growth timber made up of pine, white birch, balsam fir, with spruce in the swamps.

This was a special train, a very long one, which accommodated the whole Academy and their guests. During the trip I had long conversations with my English friends from Rothamsted and Julian Huxley. Since some of the bridges were still temporary the train moved relatively slowly but the trip was very comfortable in every way.

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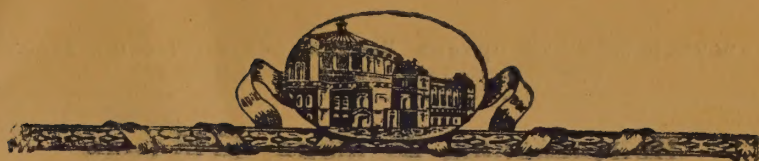
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Pass to Victory Parade



Pass to the Kremlin



ГОСУДАРСТВЕННЫЙ
ОРДЕНА ЛЕНИНА АКАДЕМИЧЕСКИЙ
ТЕАТР ОПЕРЫ И БАЛЛЕТА
им. С.М. ПРОКОВЯ

Лебединое Озеро

ТОРЖЕСТВЕННЫЙ СПЕКТАКЛЬ ДЛЯ УЧАСТНИКОВ
ЮБИЛЕЙНОЙ СЕССИИ

АКАДЕМИИ НАУК СССР

25 июня 1945 г.

Понедельник, 25 июня, 1945 года

При участии лауреата Сталинской премии,
засл. арт. РСФСР **Н. М. ДУДИНСКОЙ**

ЛЕБЕДИНОЕ ОЗЕРО

Балет в 4-х действиях. Музыка **П. И. ЧАЙКОВСКОГО**
Композиция спектакля засл. балетмейстера **Ф. В. ЛОПУХОВА**

ДЕЙСТВУЮЩИЕ ЛИЦА:

Одетта — королева лебедей	}	(лауреат Сталинской премии, засл. арт. РСФСР)
Одиллия — двойник Одетты		
Принц Зигфрид		К. М. Сергеев (засл. арт. РСФСР)
Владетельная принцесса, его мать		Е. Э. Бибер (засл. арт. РСФСР)
Ротбард — волшебник		Р. И. Гербек
Рыцарь — покровитель замка		Н. А. Соляников (засл. арт. РСФСР)
Наставник принца		П. М. Бакланов
Друзья принца		А. И. Пушкин, Т. Н. Кирсанова, М. А. Трушина
Церемониймейстер		Н. А. Иосафов
Маленькие лебеди		Л. В. Алексеева, Г. А. Петровская, Л. В. Сидоровская, Н. А. Стрельцова
Большие лебеди		Г. В. Алексеева, Н. В. Балтачьева, С. В. Лисина, М. Н. Шамшева
Парад охотниц		Н. Б. Ястребова и арт. балета
Испанцы		А. Н. Блатова, Н. М. Стуколкина, А. Л. Андреев, М. С. Георгиевский
Неаполитанцы		Ю. А. Монковский и арт. балета
Венгры		В. И. Вахрушева, И. В. Бельский и арт. балета
Поляки		К. М. Златковская, Л. С. Дорфман, В. П. Петрова, Т. И. Шмырова, Т. В. Балта- чьева, К. А. Журавлев, Д. Ф. Кузнецов, А. В. Поляков
2 лебедя IV акта		Л. Ф. Никитина, В. А. Осокина

Солисты оркестра: **Е. М. Хаит**, засл. арт. РСФСР (скрипка),
Е. В. Вольф-Израэль, засл. деят. иск. (виолончель), **М. Ф. Шоллар**
(арфа), **А. А. Паршин** (гобой)

Дирижер засл. арт. РСФСР **Е. А. ДУБОВСКОЙ**

Постановка **Л. ИВАНОВА**, **М. ПЕТИПА**
и засл. балетмейстера **Ф. ЛОПУХОВА**

Декорации по эскизам художника **Б. И. ВОЛКОВА**

Костюмы по эскизам **Т. Г. Бруни**

Режиссеры, ведущие спектакль: **Н. Н. Рыхляков,**
М. Ф. Кирхгейм, А. Н. Маслов

1-й акт

1. Выход принца. 2. Вальс. 3. Выход принцессы-матери.
4. Pas d'action. 5. Полонез. 6. Принц и лебеди над озером.

2-й акт

1. Волшебник Ротбард и лебеди. 2. Принц, Одетта и Ротбард. 3. Сцены лебедей: а) выход, б) вальс, в) адажио, г) маленькие лебеди, д) большие лебеди, е) вариация Одетты, ж) кода. 4. Финальная сцена.

3-й акт

1. Сцена посвящения в рыцари. 2. Парад охотниц. 3. Вальс невест. 4. Появление волшебника Ротбарда, Одиллии и свиты. 5. Испанский танец. 6. Неаполитанский танец. 7. Венгерский танец. 8. Польский танец. 9. Танец Ротбарда. 10. Pas d'action: а) выход и адажио, б) вариация принца, в) вариация Одиллии, г) кода.

4-й акт

1. Ротбард и лебеди: а) Ожидание Одетты, б) Вальс, в) Возвращение Одетты, г) Чары Ротбарда. 2. Появление принца. 3. Примирение. 4. Гибель Ротбарда. 5. Финал.

Краткое содержание

Так повествует старинная легенда: в замке праздник по случаю совершеннолетия принца Зигфрида. Владетельная принцесса — мать Зигфрида, дарит сыну арбалет. Зигфрид отправляется на охоту.

Берег озера. По его зеркальной глади проплывает стая горделивых белых лебедей. Это — заколдованные девушки. Лишь сила первой любви может уничтожить злые чары волшебника Ротбарда, стерегущего лебедей. Зигфрид пленен красотой Одетты и клянется ей в вечной любви. Ротбард, как тень, преследует Одетту и Зигфрида.

Бал в замке. Происходит посвящение принца в рыцари. Принц должен выбрать себе невесту. Несчастливая Одетта одиноко летает вокруг замка. Внезапно на балу появляется никому неизвестный гость: волшебник Ротбард с приближенными и Одиллией, как две капли воды похожей на Одетту.

Одиллия чарует принца своей красотой. Ротбард заставляет Зигфрида поклясться ей в вечной любви и тем самым нарушить обещание, данное Одетте. Торжествуя победу, Ротбард, Одиллия и свита исчезают.

Снова берег озера. Буря. Зигфрид всюду ищет Одетту. Ротбард и на этот раз пытается помешать Зигфриду. Но принц, овладев его могучими крыльями, бросает их в глубь озера. Лишившись крыльев, Ротбард теряет власть над лебедями и сам гибнет в пучине вод. Злые чары разрушены. Розовеет заря. Лебеди превращаются в девушек. Любовь Одетты и Зигфрида навсегда побеждает зло.

The S. M. Kirov State¹
Academic Theatre of Opera and Ballet

Monday, June 25, 1945

at 7. 30 p. m.

With **N. M. DUDINSKAYA**, Laureate of the Stalin Prize,
Honorary Artist, in the leading Part

THE SWAN LAKE

A ballet in 4 acts. Music composed by **P. I. TCHAIKOVSKY**
Performance composed by **F. V. LOPUKHOV**,
Honorary Ballet-master.

The Cast:

Odette—the Queen of Swans	}	N. M. Dudinskaya (Laureate of the Stalin Prize, Hono- rary Artist)
Odille—Odette's Double		
Prince Sigfrid		C. M. Sergeev (Honorary Artist)
The Princess Dowager, his Mother		E. E. Biber (Honorary Artist)
Rotebard, the Magician		R. I. Gerbeck
The Knight, the Protector of the Castle		N. A. Soliannikov (Honorary Artist)
The Prince's Preceptor		P. M. Baklanov
The Prince's Friends		A. I. Pushkin, T. N. Kirsanova, M. A. Trushina
The Master of Ceremonies		N. A. Iosafov
The Young Swans		L. V. Alexeeva, G. A. Petrovskaja, L. V. Sidorovskaja, N. A. Streltsova
The Large Swans		G. V. Alexeeva, N. V. Baltacheeva, S. V. Lisina M. N. Shamsheva
The Parade of Huntresses		N. B. Iastrebova and dancers of the ballet
The Spaniards		A. N. Blatova, N. M. Stukolkina, A. L. Andreev, M. S. Georgievsky
The Neapolitans		U. A. Monkovsky and dancers of the ballet
The Hungarians		V. I. Vakhrusheva, I. V. Belsky and dancers of the ballet
The Poles		K. M. Zlatkovskaia, L. S. Dorfman, V. P. Petrova, T. I. Shmyrova, T. V. Baltacheev, K. A. Zhuravlev, D. F. Kuznetsov, A. V. Poliakov
The Two Swans in the 4-th Act		L. F. Nikitina V. A. Osokina

Act I

1. Enter the Prince. 2. Valse. 3. Enter the Princess Dowager. 4. Pas d'action. 5. Polonaise. 6. The Prince and the swans on the shore of the lake.

Act II

1. Rotebard—the magician—and the swans. 2. The Prince, Odette and Rotebard. 3. Swan scenes: a) enter swans; b) valse; c) adagio; d) the young swans; e) the large swans; f) Odette's variation; g) coda. 4. Final scene.

Act III

1. The scene of knighting. 2. The parade of huntresses. 3. The valse of brides. 4. The arrival of Rotebard, Odille and their retinue. 5. The Spanish dance. 6. The Neapolitan dance. 7. The Hungarian dance. 8. The Polish dance. 9. Rotebard's dance. 10. Pas d'action: a) Sortie and adagio; b) the Prince's variation; c) Odille's variation; d) coda.

Act IV

1. Rotebard and the swans: a) Odette's waiting; b) valse; c) Odette's return; d) Rotebard's charms. 2. The Prince makes his appearance. 3. Reconciliation. 4. Rotebard's death. 5. Final.

Soloists of the Orchestra: E. M. Hait, Honorary Artist (violin), E. V. Volf-Izrael, Honorary Worker of Arts ('cello), M. F. Schollar (harp), A. A. Parshin (oboe).

Conductor E. A. DUBOVSKOY, Honorary Artist

Produced by L. IVANOV, M. PETIPAS and F. LOPUKHOV, Honorary Ballet-master.

Scenery after sketches made by B. I. VOLKOV

Costumes after sketches made by T. G. Bruni

Stage managers conducting the performance N. N. Rukhliakov, M. F. Kirhgeim, A. N. Maslov

Brief Contents

This is what an ancient legend says: a festival is held at a Castle on the occasion of Prince Sigfrid's coming of age. The Princess Dowager, Sigfrid's mother, presents her son with an arbalist. The young Prince leaves the Castle to go hunting.

The shore of a lake. A flock of beautiful white swans comes gliding over the surface of the lake which is as smooth as a mirror. These are no ordinary swans: they are young maidens over whom an evil spell has been cast. Nothing but the power of true love will break the spell worked by Rotebard, the magician, who keeps watch over the swans. Sigfrid charmed by Odette's beauty vows eternal love to her. Shadow-like Rotebard follows Odette and Sigfrid trying to bring them apart.

A ball is held at the Castle. The Prince is being knighted. Then he is to elect a bride. Odette, lonely and unhappy, hovers around the Castle. All of a sudden an unknown stranger makes his appearance at the ball: this is Rotebard with Odille—who is the very image of Odette—and a train of attendants. Odille uses her beauty to win the Prince's heart, while Rotebard insists on his vowing eternal love to her and thus causes him to break his promise to Odette. Victoriously triumphant Rotebard, Odille and their retinue vanish.

Once more the shore of the lake. A storm is raging. The Prince is eagerly searching every nook and corner to find Odette. But this time as well Rotebard attempts to prevent Sigfrid from meeting Odette. However, the Prince gains possession of Rotebard's magic wings and casts them to the bottom of the lake. Deprived of his wings Rotebard loses his power over the swans and is engulfed by the stormy waters of the lake. The evil spell is broken. The sky is tinted pink by the coming dawn. The swans again turn into beautiful maidens. Odette's and Sigfrid's love has triumphed over all evil for times everlasting.

Lundi le 25 juin 1945

à 7. 30 du soir

Avec le concours de **N. M. DUDINSKAJA**, Lauréat de la prime
Staline, artiste émérite de la République

LE LAC DES CYGNES

Ballet en 4 actes. Musique de **P. I. TCHAIKOVSKI**

Composition du spectacle — maître émérite de ballet
F. V. LOPOUKHOV

Personnages:

Odette, reine des cygnes	}	N. M. Doudinskaja
Odille, sosie d'Odette		(lauréat de la prime Staline, artiste émé- rite de la République)
Prince Sigfrid		K. M. Sergeev (artiste émérite de la Ré- publique)
La princesse régnante, sa mère . . .		E. E. Biber (artiste émérite de la République)
Rotebard, magicien		R. I. Guerbek
Chevalier-protecteur du château . . .		N. A. Soliannikov (artiste émérite de la Ré- publique)
Gouverneur du prince		P. M. Baclanov
Amis du prince		A. I. Pouchkine, T. N. Kirsanova, M. A. Trouchina
Maître des cérémonies		N. A. Iossafov
Petits cygnes		L. V. Alexejeva, G. A. Petrovskaja, L. V. Sidorovskaja, N. A. Streltsova
Grands cygnes		G. V. Alexejeva, N. V. Baltatchejeva, S. V. Lissina, M. N. Chamcheva
Parade des chasseresses		N. B. Iastrebova et autres artistes du ballet
Espagnols		A. N. Biatova, N. M. Stoukolkina, A. L. Andrejev, M. S. Georgijevski
Napolitains		J. A. Monkovski et autres artistes du ballet
Hongrois		V. I. Vakhroucheva, I. V. Bielski et autres artistes du ballet
Polonais		K. M. Zlatkovskaja, L. S. Dorfman, V. P. Petrova, T. I. Chmirova, T. V. Baltatchejev, K. A. Jouravlev, D. F. Cousnetsov, A. V. Poljakov
Deux cygnes au 4-ème acte		L. F. Nikitina, V. A. Ossokina

Acte I

1. Sortie du prince. 2. Valse. 3. Sortie de la princesse-mère. 4. Pas d'action. 5. Polonaise. 6. Le prince et les cygnes au bord du lac.

Acte II

1. Le magicien Rotebard et les cygnes. 2. Le prince, Odette et Rotebard. 3. Scènes des cygnes: a) sortie, b) valse, c) *adagio*, d) petits cygnes, e) grands cygnes, f) variation d'Odette, g) code. 4. Scène finale.

Acte III

1. Scène de la réception à l'ordre des chevaliers. 2. Parade des chasseresses. 3. Valse des fiancées. 4. Apparition du magicien Rotebard, d'Odille et de leur suite. 5. Danse espagnole. 6. Danse napolitaine. 7. Danse hongroise. 8. Danse polonaise. 9. Danse de Rotebard. 10. Pas d'action: a) sortie et *adagio*, b) variation du prince, c) variation d'Odille, d) code.

Acte IV

1. Rotebard et les cygnes: a) attente d'Odette, b) valse, c) retour d'Odette, d) sortilèges de Rotebard. 2. Apparition du prince. 3. Réconciliation. 4. Mort de Rotebard. 5. Finale.

Solistes de l'orchestre: E. M. Haït, artiste émérite (violon), E. V. Volf-Israel, maître émérite des arts (violoncelle), M. F. Schollar (harpe), A. A. Parchine (hautbois).

Chef d'orchestre — artiste émérite de la République
E. A. DOUBOVSKOJ

Mise en scène — **L. IVANOV, M. PETIPAS** et maître émérite de ballet **F. LOPOUKHOV**

Le décor d'après les dessins de **B. I. VOLKOV**

Costumes d'après les esquisses de **T. G. Brouni**

Metteurs en scène dirigeant le spectacle — **N. N. Rikhliakov, M. F. Kirkheim, A. N. Maslov**

Sujet

Voici ce que conte une ancienne légende. On célèbre une fête au Château à l'occasion du jour de la majorité du prince Sigfrid. Sa mère, la princesse régnante, lui fait présent d'une arbalète. Le jeune prince part pour la chasse.

Bord d'un lac. Une volée de cygnes blancs glisse sur le miroir des ondes,—ce sont des jeunes filles changées en cygnes. Rien que la puissance d'un premier amour pourrait rompre les charmes terribles, opérés par le magicien Rotebard, surveillant les cygnes enchantés. Sigfrid, séduit par la beauté d'Odette, lui jure un amour éternel. Rotebard épie les amoureux dans l'intention de mettre obstacle à leurs desseins.

Bal au Château. La cérémonie de la réception du jeune prince à l'ordre des chevaliers s'accomplit. Dès lors il se trouve obligé à choisir une fiancée. Odette, abandonnée et malheureuse, vole autour du Château. Un hôte, que personne ne connaît, se présente inopinément au bal: c'est le magicien Rotebard avec sa suite et Odille, qu'on ne peut distinguer d'avec Odette, tant elles se ressemblent.

Odille séduit le prince par les charmes de sa beauté. Rotebard force le jeune homme à jurer un amour éternel à Odille. Ainsi se trouve rompu le serment d'amour prêté tantôt à Odette. Rotebard triomphant disparaît avec sa suite et Odille.

De nouveau au bord du lac. Tempête. Sigfrid avec ardeur cherche partout Odette, mais Rotebard se met de nouveau en travers de ses desseins. Cependant le prince s'empare des ailes magiques du sorcier et les lance au fond du lac. Ayant perdu ses ailes, Rotebard se trouve privé du pouvoir sur les cygnes dont il avait joui et périt lui même au fond du gouffre. Des lors les charmes sont levés. Le jour commence à poindre. Les cygnes redeviennent jeunes filles. L'amour d'Odette et de Sigfrid remporte à jamais la victoire sur le mal.

генерал-полковника бронетанковых войск Катуква, генерала Горбатова, Белова, Колпакчи, Перхорович, Руденко.

За командующего Первым Украинским фронтом, Маршала Советского Союза Конева, за генералов Рыбалко, Делюшенко, Адова, Гусева, Гордова, Пухова, Глуздовского, Шафранова, расовского, Коротеева.

За командующего Четвертым Украинским фронтом, генерала армии Еременко и генералов Москаленко, Гречко, Кучкина, Гастиловича, Жданова.

За командующего Вторым Украинским фронтом, Маршала Советского Союза Малиновского и командующих армиями генералов Захарова, Манагарова, Шумилова, Плиева, Кравченко, Орюнова.

За командующего Третьим Украинским фронтом, Маршала Советского Союза Толбухина и генералов Глаголева, Трофименко, Шарохина, Бирюзова, Судец, Захватаева, Гагена.

Собравшиеся горячо приветствуют сталинских полководцев, которые руководили блестящими наступательными операциями Красной Армии на советско-германском фронте, войска которых очистили советскую землю от врага и победоносно завершили войну на территории противника.

Командующие фронтами и командующие армиями — Маршалы, генерал-полковники, генерал-лейтенанты поочередно подходят к Президиуму, горячо приветствуемые всем залом. Товарищ Сталин, руководители партии и правительства дружескижимают им руки. Звучит торжественный марш. Волнующи, незабываемы эти минуты встречи Верховного Главнокомандующего, творца победы со своими соратниками, которые талантливо осуществляли гениальный сталинский план разгрома врага, которые в великих сражениях нынешней войны еще выше подняли славу русского оружия.

Товарищ Молотов предлагает тост за здоровье советских артиллеристов: за здоровье Главного Маршала артиллерии Орюнова, Маршалов артиллерии Яковлева и Чистякова; за здоровье командующих артиллерией на фронтах Великой Отечественной войны, генерал-полковника артиллерии Дегтярева, генерал-полковников артиллерии Одинцова, Хлебникова, Барсукова, Сокольского, Казакова, Варенцова, Фомина, Неделина.

Товарищ Молотов предлагает далее тост за здоровье Председателя Президиума Верховного Совета СССР — Михаила Ивановича Калинина. Участники приема встают и горячориветствуют главу Советского государства. В зале долго не молкают бурные аплодисменты.

Следующий тост — в честь Правительства, в честь Народных Комиссаров и всего Совета Народных Комиссаров, организовавшего дело обороны, дело снабжения армий вооружением, боеприпасами, техническими средствами, продовольствием,

опрокинула технику врага.

Товарищ Сталин, обращаясь к присутствующим, говорит: — Не думайте, что я скажу что-нибудь необычное. Я бы хотел тост за здоровье людей, у которых чинов мало и звание незначительное. За людей, которых считают «винтиками» великого государственного механизма, но без которых все мы — маршалы, командующие фронтами и армиями, говоря грубо, никуда не сможем. Какой-либо «винтик» разладился — и кончается дело. Я тост за людей простых, обычных, скромных, которые держат в состоянии активности наш государственный механизм во всех отраслях науки, техники и военного дела. Их очень много, имя им легион, потому что это десятки миллионов людей. Это — скромные люди, в них ничего не пишется, звания у них нет, чинов мало, в них люди, которые держат нас, как основание держит здание. Я пью за здоровье этих людей, наших уважаемых товарищей.

Собравшиеся долго и горячо аплодируют сталинским тостам. В зале снова возникают торжественные звуки оркестра. Участники приема подходят к Президиуму, приветствуя товарища Сталина. Раздаются возгласы: «Да здравствует товарищ Сталин!», крики «ура».

— Я предлагаю тост за здоровье присутствующих здесь людей, за здоровье всей нашей советской семьи, за здоровье товарища Сталина! — восклицает товарищ Молотов. Зал встречает слова бурной, долго не смолкающей овацией. Все встают и приветствуют великого вождя и полководца, с именем которого связаны великие военные и трудовые подвиги советского народа.

Товарищ Сталин в заключение предлагает поднять тост за здоровье товарища Молотова. Присутствующие поддерживают дружными аплодисментами в честь верного соратника товарища Сталина. Маршалы, генералы, деятели науки и искусства подходят к товарищу Молотову и горячо приветствуют его.

Прием участников парада Победы в Кремле вылился в бурную, волнующую встречу руководителей партии и правительства с лучшими представителями нашей армии и нашего народа. Каждый, кто побывал в этот исторический вечер в Кремле, никогда не забудет этой задушевной, дружеской встречи, в которой нашел свое яркое отражение новый политический подъем в нашей стране. Каждый, кто слышал простые и вместе с тем глубокие слова товарища Сталина, будет с удивительной энергией работать, строить и творить во имя процветания нашей Родины, во имя укрепления ее могущества.

★

Во время приема, на котором присутствовало более десяти тысяч человек, был дан концерт с участием лучших артистических сил столицы.

(ТАСС)

General View of the Red Square, Victoria 1861



Парад Победы на Красной площади в Москве 24 июня 1945 года.

Pravda, June 25, 1945

Фото О. Коршунова.



THE COLORS OF THE DEFEATED. During the Victory Parade Red Army men throw Nazi flags at the foot of the Mausoleum
June 27 Moscow News —Photo by M. Alpert

Views of the Victory Day Parade

главного первого, который прошел величественный путь от Сталинграда через Орел, днепровские переправы, Полесье, Вислу и Одер в логово фашистского зверя — Берлин и водрузил над рейхстагом знамя победы. Дюжот к локтю построились бойцы

Оно расплеснулось на площадь и пошло перекачиваться по Москве от улицы к улице, от площади к площади. Радиоволны разнесли его по всей нашей необъятной Родине, по всему миру.

бывшая, а усилившая свою мощь в огне великих битв, и что во главе этой Армии стоит человек, олицетворяющий в себе и глубокую мудрость, и негнбавую волю нашего народа.

Ал. СУРКОВ.

Степан ШИПАЧЕВ

Красная площадь

Шлифованная тоннами металла,
Сколько миллионов подошв, —
Про всё, что площадь Красная
видала,
Ты и в томах тяжёлых не прочтешь.

Теперь в брусчатку каждый метр
закован,
Но жёлтый грунт её после дождя
Месило войско Дмитрия Донского,
На Куликово поле уходя.

Россия ничего не забывает,
Всё помнит наша древняя земля.
Лишь век за веком ветер выдувает
Песчинки из зубчатых стен Кремля.

Тут каждый камень памятен и дорог,
Тут след времён минувших не исчез:
Есть под брусчаткою земля, которой
Ивана Грозного касался жезл.

Заря на маковках церквей лучилась.
Народ валил на площадь от застав.
Кровь Разина по капле здесь
сочилась,
Солинками земли священной став.

Тут сонмами прошли в бессмертье
предки,
И, чтоб настал счастливый этот день,
Тут Ленина в простой рабочей кепке
На камне отпечатывалась тень.

Ни перед кем не ставший на колени,
Народ прошёл сквозь дымные года —
И со знамен гвардейских смотрит
Ленин
Такой, как в восемнадцатом, тогда.

Кто вас забудет — даты, даты, даты
Народных ликований и невзгод!
За кровь и слёзы жаждавший
расплаты,
Тебя мы видим, сорок первый год!

Мы видим, чуть привстав над днём,
над веком,
Как сталинские слушала слова,
Запорошенная ноябрьским снегом,
Прифронтовая строгая Москва.

Поднявшись на гранитные ступени,
Здесь, у стены кремлёвской, в
грозный час
Со Сталиным великих предков тени
На подвиги благословляли нас.

Мы и в беде, и в радости — едины.
Шумит над головой победный шёлк,
И ветер славы трогает седины
И юношеский на губе пушок.

В народной памяти не обмелеют
Такие дни. Останется в веках,
Как падали к подножью мавзолея
Германские знамёна в прах
И как стоял на мавзолее Сталин
И маршалы, прославленные с ним.

Отсюда мы глядим в такие дали,
Что на земле видны лишь нам одним.

выбить на мраморных досках летопись великих битв, и что во главе этой Армии стоит человек, олицетворяющий в себе и глубокую мудрость, и негнбавую волю нашего народа.

Глядите же и радуйтесь, хозяева Советского Союза. Теперь вы повидали мир, и мир видел вас в полной воинской ярости... А впрочем, в полной ли ярости повидал вас мир? От Волги до Берлина вы прошли неизмеримые пространства, потому что каждая пядь их мерится особой мерой... но вы прошли бы и вчетверо длиннейший путь. Ваши танки и кони, ваши солдатские сапоги прошли по всем дорогам срединной Европы:

шество. Пусть скептики назовут это наивной сказкой: чем более высокие цели ставит себе человек, тем большего он достигает. А не наивным ли казалось пророчество Берлинского о русских сороковых годов нашего века, о нас? А не наивно ли звучали для маловеров клятвы большевиков, не так давно, при свете лучины, в снегах сибирских захолустий? Такой же глубокой верой было проникнуто наше спокойное и человеческое — «наше дело правое, — победа будет за нами», когда Гитлер замахнулся на нас кулаком всевропейской тяжелой индустрии. А как он кривлялся и галдел, грозился русское небо забить в колодки, советское солнце загнать в хомут тем самым кнутом, который уже свистел над коленопреклоненной Европой... И что же осталось, на проверку, от юридической «расы господ»? Фашизм, который сглушительно вмаршировал в Германию через Бранденбургские ворота, скромно вышел из них же под конвоем советских автоматов, как нечистый дух из рта кликуши. Она сидит теперь на махер сказочной бабы-дуры у разбитого корыта, и ее знамена с черными пауками валяются у мавзолея, где лежит Ленин.

И тут, в этот триумфальный полдень, когда слеза набегает на очи, вспомняем с обнаженной головой нашего великого и про-

торжество есть прежде всего торжество человека, с боем отстоявшего свое человеческое звание. И пока гремят оркестры, пусть каждый шопотком скажет в душе своему ребенку:

— Дорогие, отроки и девочки, и совсем маленькие! Запоминайте этих людей, очень добрых людей, избавивших от кнута и виселицы, от газа циклопечки со страшным красным глазом, изуверских фашистских вивисекций, горьких, всегда таких неслышимых слез. Пусть в вашей певинной памяти веки запишется этот день, полный вехи благодеяний. Таких подарков детства дарил еще никто. И если когда-нибудь достать надломит ваше вдохновение, или нут черные минуты, от которых мы множило постаревшие и смертные, не оборонить вас на расстоянии веков, вспомните этот день, и вам смешна временная невзгода. Вам будет так, как бы вы раскрыли бесконечно святую творческой муки, беззаветного героя бессонного труда. Эта книга называется Великая Отечественная война. В ней были только буквами, строчными и заглавными, которыми верховный вождь Сталин написал самую золотую страницу в истории человеческого рода.

The title of HERO OF THE SOVIET UNION, with the presentation of the Order of Lenin and the Gold Star Medal, is conferred upon Marshal of the Soviet Union

JOSEPH VISSARIONOVICH STALIN

who headed the Red Army in the difficult days of the defense of our Homeland and its capital Moscow, directing with exceptional courage and resolution the struggle against Hitlerite Germany.

M. Kalinin, Chairman of Presidium of Supreme Soviet of USSR

A. Gorkin, Secretary of Presidium of Supreme Soviet of USSR

Moscow, Kremlin, June 26, 1945.

hearty ovation. The guests at the reception greeted the leading representatives of Soviet military engineering, whose creative efforts had made it possible to supply the valorous forces with splendid materiel, which proved superior to the materiel of the enemy.

Marshal Stalin then rose and addressed the gathering. He said:

"Do not expect me to say anything unusual. I have the simplest, most ordinary toast to propose. I should like to drink to the health of those who hold low ranks and unobtrusive titles. To those who are considered 'small cogs' in the great state mechanism, but without whom all of us—marshals and commanders of fronts and armies—are, to put it bluntly, not worth a damn. Some 'small cog' gets out of order—and the whole thing goes wrong. I toast the simple, ordinary, modest people, the 'small cogs' that maintain the activity of our great state mechanism in all branches of science, economy and military affairs. There are very many of them, their name is legion, because there are tens of millions of them. These are modest people. Nobody writes anything about them, they have no titles, they hold low ranks, but these are the people who support us as the foundation supports the super-structure.

I drink to the health of these people, our esteemed comrades."

Stalin's words evoked a fresh outburst of applause mingled with the strains of music as the orchestra began to play. The guests flocked to the Presidium table to hail Stalin. There were cheers and shouts of "Long live the great Stalin!"

"I propose the health of the guests present here tonight to the health of our whole Soviet family, the health of Comrade Stalin!" exclaimed Molotov. The hall met these words with another prolonged ovation. Everyone rose and greeted the great leader and strategist with whose name are associated the great military and labor exploits of the Soviet people.

Stalin in conclusion proposed the health of Molotov. The toast evoked a hearty measure of applause in honor of Stalin, comrade-in-arms, Marshals, generals, leading figures in art and science went over to Molotov and warmly congratulated him.

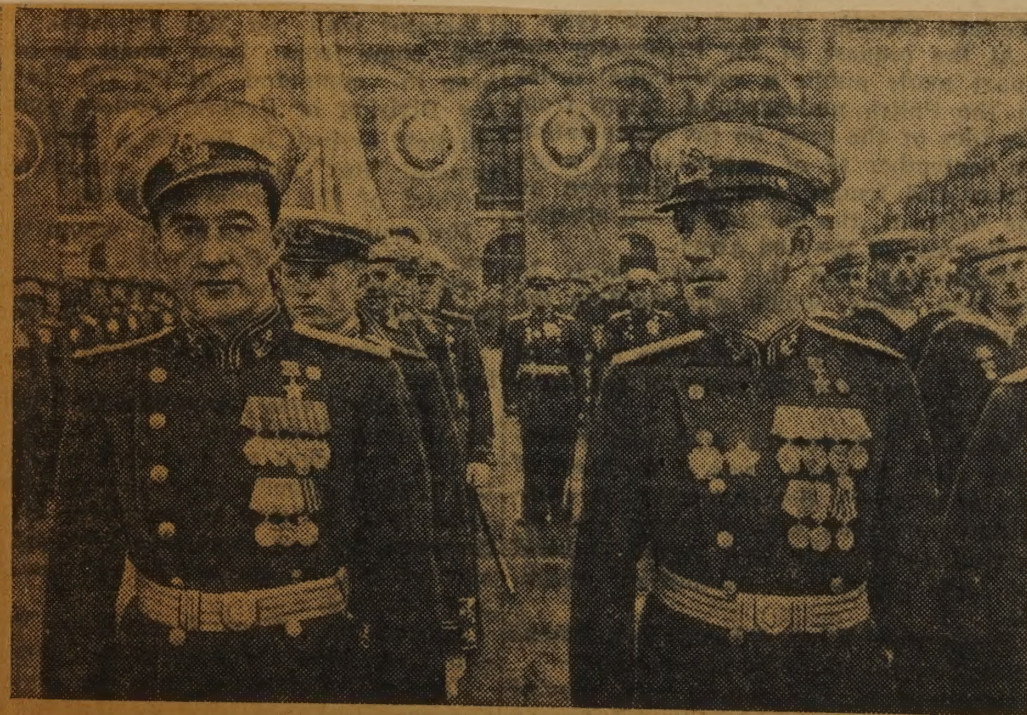
★

During the reception, attended by more than 2,500 guests, a concert was given with the participation of the foremost artists of Moscow.

(TASS)



Парад Победы на Красной площади 24 июня 1945 г. 1. Церемониальный марш доблестных воинов Красной Армии. 2. Могучие танки проходят по площади. 3. Советские воины бросают к подножию Ленинского мавзолея гитлеровские знамена, захваченные у врага в победоносных боях. Фото С. Гурария и Н. Петрова.



THEY WON ON THE BATTLEFIELD. Mixed regiments from various fronts, the flower of the Red Army, marched past the Mausoleum, greeted by the leaders of the Soviet State and its armed forces. At left is the stalwart Red Army infantry, while center are two Heroes of the Soviet Union, Captain of the Second Class V. N. Alexeyev and Lieutenant Colonel F. Y. Kotanov, marching in the ranks of the Soviet Navy. The tanks at right are part of the armored forces shown at the parade. —Photos by N. Petrov, Y. Khaldei and M. Alpert

Moscow News June 27

ПАРАД ПОБЕДЫ

День 24 июня 1945 года навсегда останется в памяти нашего народа, как немаркнущая дата величия и славы советского оружия. 24 июня на Красной площади состоялся парад войск Действующей Армии и Военно-Морского Флота и войск Московского гарнизона, — парад Победы.

Древняя Москва не раз провожала от седых стен Кремля доблестных сынов отечества на трудные бранные подвиги. Так было всегда, когда великой матери нашей Руси грозили иноземные захватчики; так было и в памятном 1941 году, когда советские войска, пройдя 7 ноября по площади, прямо уходили на дальние подступы к Москве защищать сердце родины. И вот сегодня, в этот величественный праздник, столица встречает детей советского народа, вернувшихся с победой. Здесь сводные полки десяти фронтов и Военно-Морского Флота. Войны-победители, они прошли от Подмосковья до Восточной Пруссии и Померании, от Волги до Эльбы, от Сталинграда до Берлина. Они победили самого сильного и самого ненавистного врага — фашистскую Германию. Они разгромили всех фашистских сателлитов, заставили их сдать на милость победителя. Они

валясь перед полками, маршал Жуков здоровается с бойцами и офицерами:

— Здравствуй, товарищи!
— Здравия желаю, товарищ маршал! — раздаётся один за другим тысячеголосый ответ.

— Поздравляю вас с праздником Победы!

Речь Маршала Советского Союза Г. К. Жукова на параде Победы 24 июня 1945 года

Товарищи красноармейцы и краснофлотцы, сержанты и старшины, офицеры армии и флота, генералы и адмиралы!

Товарищи рабочие и работницы, колхозники и колхозницы, работники науки, техники и искусства, служащие советских учреждений и предприятий!

Боевые друзья!

От имени и по поручению Советского Правительства и Всесоюзной Коммунистической Партии большевиков приветствую и поздравляю Вас с великой победой над германским империализмом.

Сегодня столица нашей Родины — Москва от имени Родины чествует доблестных советских воинов, одержавших эту

Слова маршала покрывает мощное «ура».

Закончив обезд войск, маршал Жуков, спешившись у мавзолея, поднимается на трибуну. На середину площади выходит сводный военный оркестр в количестве 1.400 человек. С исключительным подъемом исполняется «Славься, русский на-

род» Глинки. Затем фанфаристы возвещают: «Слушайте все!» Маршал Советского Союза Г. К. Жуков обращается с трибуны мавзолея с яркой речью к войскам, к рабочим, колхозникам, интеллигенции, ко всем трудящимся Советского Союза.

Сталина перешла в решительное наступление, очистила от врага советскую землю, перенесла войну на территорию Германии, наголову разгромила гитлеровскую армию и водрузила знамя победы над Берлином. Так подлые немецкие захватчики разделили участь всех прочих захватчиков, посягавших на нашу священную землю. Подняв меч против нас, немцы нашли гибель от нашего меча.

Соединенными усилиями великих держав — Советского Союза, Соединенных Штатов Америки и Великобритании — фашистская Германия повержена в прах. Ее чудовищная военная машина разрушена. Преступное гитлеровское правительство

ства, морально-политическое единство народов нашей страны, исполнившая сила Красной Армии и доблестный труд советского народа.

Мы победили потому, что нас вел к победе наш великий вождь и гениальный полководец Маршал Советского Союза — Сталин!

Товарищи!

Победу над германским империализмом мы завоевали ценою тяжелых жертв. В жестоких битвах с врагом пало смертью храбрых много наших боевых друзей — лучших сынов и дочерей нашего народа. На алтарь Отечества, ради победы, они отдали самое дорогое — свою жизнь. Сегодня, в день великого торжества, почтим

та возглавляет генерал-полковник Трубиных. В рядах полка 20 Героев Советского Союза — представители всех родов войск. В их числе — Герой Советского Союза майор Коломоец, Герой Советского Союза майор Постнов и др.

На площадь вступает сводный полк 1-го Белорусского фронта, войсками которого командовал маршал Жуков. Гул аплодисментов сопровождает колонну, возглавляемую Героем Советского Союза генерал-лейтенантом Рослым. Рядом с ним — Герой Советского Союза генерал-майор Зайкин и генерал-майор Соколов. Колонне предшествуют два ряда знаменосцев, несущих 36 знамен, под которыми соединения и части фронта прошли с победами путь от Волги до Эльбы, под которыми они штурмовали Берлин. Среди знамен — знамя 380-го ордена Суворова стрелкового полка, пронесенное с боями от Старой Руссы до Берлина и по его улицам до рейхстага. Под этим знаменем бойцы полка слушали приказ командующего 1-м Белорусским фронтом маршала Жукова от 30 апреля 1945 года, в котором личному составу объявлялась благодарность за овладение зданием рейхстага.

Воины фронта прислали на парад лучших из лучших своих соратников. Батальоном автоматчиков командует Герой

столицы Австрии — Вены. В сводном полку фронта — 52 Героя Советского Союза, лучшие люди фронта: пехотинцы, летчики, танкисты. Второй батальон возглавляет прославленный генерал-командир гвардейской воздушно-десантной дивизии, Герой Советского Союза генерал-майор Иван Никитич Конев. Среди посланцев фронта — отважный ас, летчик-истребитель капитан Николай Скоморохов; прославленный артиллерист, старший сержант Михаил Завалишин; почетный казак, трижды воевавший с немцами, кавалер двух георгиевских крестов и шести орденов и медалей, кавалерист-гвардеец Сидор Трофимович Кузин и др.

Всеобщее оживление вызывает появление перед мавзолеем сводного полка Военно-Морского Флота во главе с черноморцами. Идут балтийцы, североморцы, герои Севастополя, освободители Керчи, Новороссийска, Таганрога, славные воины Дунайской и Днепровской флотий. Сводный полк военных моряков ведет прославленный севастополец вице-адмирал Фадеев.

Моряки покидают площадь, и внезапно смолкает оркестр. Слышна только резкая дробь барабанов. К мавзолею

Presiding Judge: And your organization was connected with organizations above you?

German: Yes. My organization was subordinated to Janson, the commandant of the Lvov district, and the latter was subordinated to the high command of the AK, which was located in Warsaw.

Next the Court examined witness F. A. Janson, who served in the Polish army since 1929 first with the rank of major, then of lieutenant colonel. During the latter period he occupied the post of commandant of the Lvov district of the AK.

Janson testified that in May or June 1944 he was in the headquarters of the AK in Warsaw where he received verbal directives and the statutes of the NE organization in writing.

Prosecutor: Whom did you meet in Warsaw?

Janson: The first day I met General Bur"-Komarowski, the commander-in-chief of the AK, his assistant whose

nicknamed "Richard," who was in charge of espionage in the eastern part of Poland. Subsequently Swieckowski was connected with an officer nicknamed "Boleslaw" of the intelligence service of the AK, for whom he systematically collected spy information about the Red Army through the 20-30 informants under him. The Court next examined witness A. L. Grolinska.

Grolinska testified that she belonged to the Armia Krajowa since the spring of 1942 and served in it as a radio operator, working at radio station No. 36.

Grolinska said that after the liberation of Lvov by the Soviet troops she worked at radio station No. 36, maintaining regular two-way wireless communication with the Polish emigre "government" in London.

Grolinska had five camouflage apartments provided with radio transmitters with which she sent to London, to radio stations Nos. 35 and 94, 20 wireless messages and received 13 from London. Grolinska further testified that she had been

Western Ukraine on that day in 1939.

At the request of the Prosecutor the Court made public a confidential order to the Polish underground, taken from the files of the case, on the organization on September 17 of explosions of army trains and trucks, acts of diversion on the railways, the burning of warehouses in the rear of the Red Army.

Prosecutor: Did this cause harm to the Red Army, which was fighting the Germans?

Kolendo: Yes. It harmed the cause of the Red Army and the cause of the United Nations.

Witness Urbanowicz, who was examined after Kolendo, was a member of one of Ragner's detachments that committed numerous acts of terror and diversion against the Red Army, robbed the local population, committed arson, etc.

Prosecutor: What did your detachment do during the German occupation?

Urbanowicz: We fought the Soviet guerrillas. Once our detachment fought

Liberator plane on May 25, 1944. He had come from Italy, where he had been in command of the 7th Infantry Division of General Anders' forces. Okulicki arrived in Poland as deputy to General "Bur"-Komarowski, commander-in-chief of the Armia Krajowa.

Prosecutor: When and by whom were you appointed to this post?

Okulicki: I was appointed by General Sosnkowski in March 1944 in London.

Prosecutor: Were you summoned to London?

Okulicki: I was summoned to London by General Sosnkowski.

The defendant testified that on October 1, 1944, after "Bur"-Komarowski had come to a decision to surrender to the Germans, he had appointed Okulicki to succeed him as commander of the Armia Krajowa.

Prosecutor: What instructions were you given before your trip to Poland?

Okulicki: Before my trip to Poland General Sosnkowski told me that the of-

your question?

Okulicki: I do not deny that.

Prosecutor: You say that you did not carry out the order of the Soviet military command to disband the Armia Krajowa. You preserved the Armia Krajowa in the underground. You concealed ammunition, arms and radio stations which should have been turned over, and preserved all this in the underground.

Okulicki: Yes.

Prosecutor: How do you appraise that?

Okulicki: I appraise it as non-fulfillment of the order of the Red Army command.

Prosecutor: Only as non-fulfillment of the order? To what purpose?

Okulicki: With the purpose of preservation for the future.

(To be continued in our next issue)

Zwerzinski: I know about the concentration of AK forces in the Lublin district and about their struggle. Further I know about an explosion near Lublin, about the activity of a detachment which operated in or near the Bialystok district. Then, about the blasting of a bridge on the Tarnow-Lvov railway, about the struggle waged by two or three detachments operating in the Lublin district. Following the examination of Zwerzinski the Court examined defendant Urbanski, who was a member of the presidium and secretary of the underground Stronnictwo Pracy. Urbanski confirmed the testimony he had given during the preliminary investigation.

The morning session closed with the examination of Urbanski.

Views of the Victory Day Parade

ПОЕЗД № _____

Отправление 18 час. 00 мин.

24 июня 1945 г.

Вагон № 3 Место № 4

Railway ticket - Moscow to Leningrad and return

June 25

In the morning we stopped at a little station -- Luban -- some 40 to 60 kilometers south of Leningrad. This stop was for about 15 minutes to service the train and the passengers descended in order to take a little walk. Shortly after walking onto the platform a peasant woman about 50 years old stepped up and presented me with a large bouquet of wild flowers. She was from the adjoining State farm. She told me how the Germans had destroyed all their buildings and livestock, and her eyes filled with tears as she told us that if the American aid had been a few weeks later it would have been too late. She was so grateful to the Americans that she wanted to present something to one of us. Then a wounded soldier, an invalid of the patriotic war, presented me with a brass ash tray made from a German shell with the Soviet Star affixed to a central standard. His name was Nikolai Timofeevich Matveev.

These people had met the train because they knew of the Academy Jubilee and that there would be Americans on the train. All in all this was a most impressive experience made more so by the fact they seemed to pick me out as an obvious American, for some reason.

We reached Leningrad about noon and had rooms in the Astoria Hotel. In the afternoon we went through the Museum of the Defense of Leningrad, which was impressive indeed. The museum is very complete and shows the progress of the siege in great detail. Many exhibits were devoted to the various substitutes for normal food and lighting that had been developed during the siege. After the museum

June 22

In the morning we stopped at a little station -- Inshan --

some 40 to 50 kilometers south of Leningrad. This stop was for

about 15 minutes to service the train and the passengers descended

in order to take a little walk. Shortly after walking onto the

platform a peasant woman about 50 years old stepped up and presented

me with a large bouquet of wild flowers. She was from the adjoining

State farm. She told me how the Germans had destroyed all their

buildings and livestock, and her eyes filled with tears as she told

us that if the American aid had been a few weeks later it would have

been too late. She was so grateful to the Americans that she wanted

to present something to one of us. Then a wounded soldier, an invalid

of the patriotic war, presented me with a brass ash tray made from

a German shell with the Soviet Star affixed to a central standard.

His name was Nikolai Timofeevich Matveyev.

These people had met the train because they knew of the Academy

Jubilee and that there would be Americans on the train. All in all

this was a most impressive experience made more so by the fact they

seemed to pick me out as an obvious American, for some reason.

We reached Leningrad about noon and had rooms in the Astoria

Hotel. In the afternoon we went through the Museum of the Defense

of Leningrad, which was impressive indeed. The museum is very

complete and shows the progress of the siege in great detail. Many

exhibits were devoted to the various substitutes for normal food and

lighting that had been developed during the siege. After the museum

we took a considerable walk through the city, including a visit to the apartment house where the little girl of my interpreter was killed during the siege.

It was obvious that the people of Leningrad were perfectly willing to die rather than surrender to the Nazis. Never have people put up a more desperate fight, nor likely have more citizens of a great city died in its defense.

Leningrad is a much more beautiful city than Moscow. It had been planned by Peter as a unit. The architecture is mostly French, Italian, and Dutch of the 17th and 18th centuries. The squares have a unity that one misses in most cities; the parks, buildings, and canals all fit together. Now many of the buildings look shabby because of the camouflage paint and bomb damage. Especially have the gardens and parks been neglected. But restoration was well underway.

It seemed to me that the citizens of Leningrad seemed more alert and better dressed than those of Moscow.

That evening we attended the ballet, Swan Lake, at the Leningrad Opera House. This was the finest thing of its kind I have ever seen. The opera house in Leningrad is not quite so showy as the Bolshoi in Moscow, but just as beautiful and in a little better taste, so I thought.

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June 26

In the morning we visited the museum of the Dokuchaiev Institute of Soil Science. They have a very large and interesting collection of soils from all over the Soviet Union. The museum is arranged to bring out the whole progress of soil development from primary rocks to a fully developed soil with relevant recognition given to the effects of climate, micro-organisms, and vegetation. After this a rather comprehensive exhibit of each of the great soil regions was presented. The explanation was given by Z. J. Schokalsky. She is a woman perhaps 50 years old and was trained under Prof. Glinka. The explanation was detailed, correct, and classical to the last detail. Presumably the museum, will be moved to Moscow in a short time. We stopped in the main Academy offices for awhile to see the fine rooms and relics of older days.

We visited the Museum of Natural History briefly, particularly to see the famous Mammoth. One of these was found in the Tundra region in a remarkably good state of preservation. It had been caught in the mud in a sort of sitting position, and later had been covered with water and frozen quickly. It had been possible even to identify vegetation upon which he had been feeding, from the contents of his stomach. The exhibits in this museum are unusually well arranged, including a great many showing the various animals in their natural habitat.

After lunch, we visited Prof. Turin in his laboratory at the University of Leningrad. He gave us a considerable lecture on organic matter, which was quite classical.

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After lunch, we visited Prof. Turin in his laboratory at the University of Leningrad. He gave us a considerable lecture on organic matter, which was quite classical.

He says there are three times as many living roots in virgin Podzols as compared to those devoted to rye. In a virgin Podzol 80.5 percent is humus, and 19.5 living roots. In rye growing on Podzol the organic matter is 92.3 percent humus and 7.7 living roots. Corresponding figures for virgin Chernozem are 90.1 and 7.1. On the whole one would expect four tons per hectare of roots with cultivated plants and about the same for native grasses. The mass of micro-organisms is not more than one-half as much in a year, but at any one time there would not be more than one-tenth percent. In a Chestnut soil with 4 percent of humus 1.25 represents the total mass of micro-organisms (?). He went on with a long discussion on humic and fulvic acid. The latter has only about 40 percent of the carbon found in the former. He says that the humins of soil are quite unlike those of coal. These humins may be condensed humic and fulvic acid. He extracts the soil with one-tenth normal alkali to get the filterable humic acid. The humic acid in Podzols runs 20 percent, 30 to 35 in Chernozems, 20 in Chestnut, and 16 in Red soils. Fulvic acid is higher, say 50 to 70 percent in Podzols and Red soils, and about 40 in Chernozems (in terms of the total humus). The results for humins are more variable and not so closely related to the soil zones but increase with increases of clay content. The fulvic acid in the northern soils is dark and low in carbon; in Sierozem it is lighter colored, low in carbon, and high in nitrogen.

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natural conditions. The ester-like bonds are easily hydrolyzed by alkali. In Podzols all humic and fulvic acid is extracted by one-tenth normal sodium hydroxide. In weak Podzols (our Gray-Brown Podzolic) about 57 percent of the humic and 87 percent of the fulvic is extracted. In Chernozems the amount extracted is much lower since about 92 percent of the humic acid is combined with calcium. Again the Red soil is much like the Podzol. In the humus Podzol the humic and fulvic acid are combined with the sesquioxides.

He thinks that the fats and waxes are not very important in soils although they may be very plentiful in peats and turfs.

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In this laboratory Turin seems to be making a lot of these analyses, although I fail to see their profound significance myself.

At 6 o'clock I attended a general meeting of the Academy at which there were a great many greetings and messages presented. Two long reports were given in Russian. I sat through the first one while a whole flock of cameramen operated continuously. During the second I took a walk in the park, but came back for a very fine concert of music that followed the papers. Dinner was between 11 and midnight.

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ФИЛАРМОНИЯ

Большой зал

КОНЦЕРТ

*Заслуженного коллектива
Республики*

СИМФОНИЧЕСКОГО

ОРКЕСТРА

ФИЛАРМОНИИ



Безок
1944 — 1945
FF

Вторник, 26 июня 1945 года

КОНЦЕРТ

заслуженного коллектива Республики
СИМФОНИЧЕСКОГО ОРКЕСТРА
Ленинградской Государственной
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ФИЛАРМОНИИ

Дирижер
заслуженный артист РСФСР
Е. А. МРАВИНСКИЙ

ПРОГРАММА

- ГЛИНКА Увертюра к опере «Руслан и Людмила»
- МУСОРГСКИЙ Вступление к опере «Хованщина»
(«Рассвет на Москва-реке»)
- ЧАЙКОВСКИЙ «Франческа да Римини» (по Данте)

Tuesday, June 26, 1945

THE LENINGRAD STATE PHILHARMONIC

Concert Held

by

The Honorary Philharmonic Symphony Orchestra
of the Republic

Conductor—E. A. Mravinsky, Honorary Artist

PROGRAMME

Glinka — Overture to the Opera "Russlan and Ludmilla"

Mussorgsky — Introduction to the Musical Drama "Khovanshtchina"
("Daybreak on the Moscow River")

Tchaikovsky — "Francesca da Rimini" (after Dante)

Mardi le 26 juin 1945

PHILARMONIE D'ETAT DE LENINGRAD

C o n c e r t

d'Orchestre symphonique de la Philharmonie, collectif émérite
de la République

Chef d'orchestre—E. A. M r a v i n s k i, artiste émérite
de la République

P R O G R A M M E

G l i n k a — Ouverture de l'opéra „Rousslan et Loudmilla“

M o u s s o r g s k i — Introduction du drame musical „Khovantchina“
(L'aube sur la Moskova)

T c h a i k o v s k i — „Francesca da Rimini“ (d'après Dante)

Mardi 12 juin 1900

PHILARMONIE D'ÉTAT DE MONTRÉAL

CONCERT

Orchestre symphonique de la Philharmonie, collectif émérite
de la Philharmonie

Chef d'orchestre - E. A. MONTMAYE, artiste émérite
de la Philharmonie

PROGRAMME

1. Marche de l'opéra „Héroïsme et L'Épique“

2. Symphonie de chambre „Morceaux“
de la Philharmonie

3. „Fragrances de l'opéra“ de la Philharmonie

June 27

I went to Peterhof -- the famous country palace built by Peter the Great -- which must be about 25 to 30 kilometers south and west of Leningrad. In going out we passed the famous steel factory that never ceased making munitions during the whole of the Leningrad siege. Since it was on the south margin of the city it was within easy artillery range a great deal of the time. It suffered over 70,000 bomb hits but never ceased operation. Thousands and thousands of people died in it from bombs, starvation, and sheer fatigue.

After passing the steel factory most of the land was in terrible shape. Everything had been destroyed by the war, including practically all the trees. The landscape is simply cluttered with trenches, barbed wire, shell craters, and so on, and it will probably be a long time before all the mines can be removed, although a great deal of rehabilitation work was going forward. Several kilometers beyond the steel factory there were many abandoned street cars that had been used by Red soldiers as temporary forts. They were simply riddled with machine gun bullets. As we neared Peterhof there was a good deal of activity here and there in the repairing of houses and other buildings. At some distance German prisoners were being used, but these were not allowed to be used near the cities.

The palace at Peterhof and the surrounding gardens seemed to me to be in a hopeless condition. In addition to the damage incidental to the war, the Germans had gone ^{out} of their way (and the Spanish)

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УЧАСТНИКУ ЮБИЛЕЙНОЙ СЕССИИ
АКАДЕМИИ НАУК СССР



ЭКСКУРСИЯ ЛЕНИНГРАД—ПЕТРОДВОРЕЦ

УЧАСТНИКУ ЮБИЛЕЯ АКАДЕМИИ НАУК СССР

1725 — 1945

Ленинград — Петродворец

Дорога в Петродворец из города проходит от Нарвских ворот, по улице Стачек, мимо Кировского (бывшего Путиловского) завода, по Петергофскому шоссе, через Лигово (Урицк), Володарское (бывшее Сергиево), Стрельну.

Нарвские триумфальные ворота были поставлены в 1814 г. для встречи возвращавшихся из Парижа русских войск.

Первоначально Нарвские ворота были деревянными. Их заменили в 1834 г. монументальным сооружением из камня и чугуна по проекту архитектора Стасова. Фигуры воинов, Победы и Славы выполнены по моделям Демут-Малиновского; кони — работы Клодта. От Нарвских ворот в 1941—1943 гг. по улице Стачек были построены целые ряды баррикад, завалов и противотанковых препятствий. По середине улицы высились мощные доты, построенные руками работников Кировского района.

Далее дорога в Петродворец проходит через обширную площадь с памятником С. М. Кирову, работы скульптора Томского. В глубине площади — здание Дома Советов Кировского района, постройки архитектора Н. Троцкого. Эта площадь была укреплена в дни блокады Ленинграда.

На окраине города находится один из старейших металлургических и механических заводов Советского Союза, единственный в стране четырежды орденоносный Кировский завод.

Завод основан в 1789 г. в Крэнштадте, как казенный чугунно-литейный завод. В 1801 г. был перенесен сюда и в 1868 г. куплен у казны инженером Путиловым. Теперь этот крупнейший металлообрабатывающий и машиностроительный завод носит имя С. М. Кирова. В Великой Отечественной войне Кировский завод сыграл огромную роль в обороне всей нашей страны и особенно Ленинграда. Кировцы не прекращали работы ни на один день. Немцы выпустили по заводу 7000 снарядов. Здесь ремонтировались пушки, танки, производились боеприпасы. С вышки Кировского завода был виден весь передний край немецкой

обороны. Почти сразу за Кировским заводом начинался передний край фронта. Это был ближайший к городу участок немецких позиций.

За Кировским заводом находился поселок Автово с прекрасными кварталами новых построек. В домах поселка были расположены штабы дивизий, оборонявших позиции под Урицком. Автово опоясывали сильные укрепления. Больница Фореля на Петергофском шоссе служила местом расположения командных пунктов. На месте бывшего Шереметьевского дворца и парка стояли передовые командные пункты. Отсюда шло управление боем.

Передовые позиции этого участка фронта не представляли собою постоянной линии, а переходили много раз из рук в руки. Немецкое командование использовало в качестве наблюдательных пунктов и огневых точек окрестные здания, например завод пишущих машин. Немцы втаскивали артиллерийские орудия на 2-й этаж и прямой наводкой били по шоссе.

У дороги слева памятник героическим защитникам Ленинграда работы архитекторов Иогансена и Петрова, поставленный на рубеже переднего края в первые

дни снятия блокады. Недалеко от этих мест стояли немецкие батареи, обстреливавшие наши суда, проходившие из Ленинграда в Кронштадт. Немцам отсюда виден был весь залив, который они обстреливали 210-миллиметровыми орудиями. И несмотря на это, нашему командованию удалось к концу 1943 г. перебросить на Ораниенбаумский плацдарм много техники, артиллерии, боеприпасов и многотысячное войско для одновременного удара от Пулкова и Ораниенбаума. Этот удар взломал всю оборону немцев. Фашисты были отброшены от стен Ленинграда доблестной Красной Армией.

На 23-м км от Ленинграда лежит Стрельна, ныне жестоко разрушенная фашистами.

Это место было первоначально выбрано Петром I для постройки большого загородного дворца и фонтанов. Здание Петровского дворца сгорело еще в XVIII в. и лишь в 1804 г. вновь отстроено архитектором Руска для Константина Павловича.

Константиновский дворец расположен в живописном месте с видом на взморье, и окружен огромным парком. Дворец

был разрушен немецко-фашистскими вандалами.

В сентябре 1941 г. немцы захватили Петродворец и произвели там чудовищные разрушения.

Собор Петра и Павла в центре города служил немцам наблюдательным пунктом для корректирования огня по нашим судам в Финском заливе.

Петродворец (прежде Петергоф) был царской летней резиденцией. Петродворец основан Петром I, расширен Елизаветой и Николаем I. До разрушения фашистскими варварами Петродворец являлся величайшим художественно-историческим комплексом дворцов, парков и фонтанов, сооруженных крупнейшими архитекторами и художниками XVIII и XIX вв. Первый летний загородный дворец Петра I Монплеzir или Голландский домик построен на самом берегу Финского залива между 1709—1722 гг., при участии архитекторов Леблона и Микетти. С площадки перед Монплезиром открывается широкий вид на Кронштадт и Ленинград. Дворец состоит из центральной части — собственно Голландского домика — и длинных галлерей с павильонами на концах.

Внутри домика находятся спальня и кабинет Петра; центральный зал—столовая с расписным сводом, кухня, японский кабинет, отделанный лаковыми японскими панно и галереи для приема гостей.

Во время своих частых поездок по южному берегу Финского залива Петр останавливался в Монплезире. Внутренняя отделка Монплезира пострадала от фашистского вандализма.

С запада ко дворцу примыкает так называемый «Екатерининский корпус» Монплезира, построенный при Елизавете Петровне в 1760 г. архитектором Растрелли. Эта часть Монплезира состояла из парадного каменного здания, сильно разрушенного немцами, и деревянной пристройки, ими же сожженной. В этой пристройке были интимные комнаты Екатерины II. Впоследствии Екатерина II переделала внутреннее убранство парадной части по проекту архитектора Кваренги для внука своего, будущего Александра I.

В 1715 г. Петром I начато было строительство большого парадного дворца. Эта царская резиденция является замечательным памятником мировой архитектуры XVIII в.

Дворец построен знаменитым фран-

цузским архитектором Леблоном, который спроектировал его в ансамбле с террасами, протом и фонтанами.

При Елизавете Петровне дворец расширяется архитектором Растрелли в 1747—1752 гг. Растрелли увеличил здание, надстроил третий этаж, на одном конце галлерей соорудил церковь, а на другом «Корпус под гербом».

Внутренняя отделка дворца, поражающая своим великолепием и тонкостью художественного выполнения, во времена Петра I, Елизаветы, Екатерины II и Николая I проектировалась Леблоном, Микетти, Растрелли, Фельтеном, Деламоттом и Штакеншнейдером. В начале Отечественной войны наиболее ценное убранство дворца было эвакуировано в глубокий тыл.

С южной стороны большого дворца расположен Верхний парк, разбитый в стиле французских садов. Украшением его являлся фонтан со скульптурной группой «Нептун и свита», ныне похищенной немцами.

Мраморные статуи партера — итальянской работы первой половины XVIII в.

Нижний парк так же, как и Верхний, — французского стиля, замечателен своими

дворцовыми сооружениями и фонтанами, проектированными и частично уже выполненными при Петре I. В его царствование в Нижнем парке построены, кроме Монплезира, дворец Марли с прудами, павильон Эрмитаж, у подножья большого дворца Самсониевский грот и по сторонам его грандиозные каскады с фонтанами.

В центре бассейна против Большого дворца стояла колоссальная бронзовая статуя Самсона, разрывающего льву пасть, из которой била мощная струя воды высотой до 20 м. Это замечательное художественное произведение конца XVIII в., работы скульптора Козловского, также похищено немцами.

В течение XVIII—XIX вв. в Нижнем парке сооружены: каскад «Золотая Гора» и группа фонтанов близ Марли, «Львиный каскад», фонтаны «Адам» и «Ева», каскад «Драконова Гора», римские фонтаны и группа фонтанов в районе Монплезира. Большая часть фонтанной скульптуры сохранилась, благодаря своевременной эвакуации и захоронению.

Опустошения в парке огромны; немцы не пощадили вековых деревьев ценных пород, они рубили столетние липы, устраивая противотанковые заграждения.

К 1725 г. был закончен небольшой дворец Екатерины I Марли. В его постройке участвовали Леблон и Микетти. В Марли находились маленькие интимные комнаты царицы и ее детей. Дворец окружен прудами. Вблизи находится фруктовый сад, составлявший часть «хозяйства» усадьбы царицы. Фашистские вандалы разрушили этот ценнейший памятник XVIII в.

Одновременно с Марли теми же архитекторами построен и Эрмитаж—небольшой павильон, окруженный рвом.

В нижнем этаже находилась приемная и кухня, а наверху один столовый зал с подъемным столом. Украшением стен зала служили картины фламандской школы XVII—XVIII вв., уцелевшие благодаря эвакуации.

За Нижним парком, в сторону Ленинграда, расположен второй петергофский парк с дворцами в местности, названной Александрией в честь жены Николая I. В XVIII в. здесь помещался зверинец. В 1829 г. построен архитектором Менеласом для семьи Николая I новый дворец «Коттедж» в подражание английским коттеджам. Внутри этого дворца нет пышной роскоши времен Елизаветы и Екате-

рины, — главное внимание обращено на комфортабельность помещений, уют и изящную простоту.

В Александрийском парке стоит дворцовая церковь Капелла, построенная в 30-х годах XIX в. по проекту архитектора Шинкеля. Недалеко от Капеллы находится летний дворец Александра II Ферма, построенный в 1841 г. Шгакеншнейдером.

У самого взморья, у восточной границы Александрии, был расположен Нижний дворец, сооруженный в конце 90-х годов XIX в. архитектором Томишко. Это была летняя резиденция последних Романовых. Дворец разрушен немцами.

В Александрии, близ коттеджа, стоят два вагона царского поезда, служившего Николаю II в 1914—1917 гг. В одном из этих вагонов в 1917 г. Николай II подписал манифест о своем отречении от престола.

Петродворец — величайший памятник русской художественной культуры, — зверски разрушенный и оскверненный немецко-фашистскими варварами, будет восстановлен.

*THE 220th ANNIVERSARY OF THE
ACADEMY OF SCIENCES*

1725—1945

Leningrad — Petrodvoretz

The way from Leningrad to Petrodvoretz runs from the Narvsky Gates along Ulitza Statchek and further on, past the Kirov (former Poutilov) Plant, along the Peterhof highroad, via Ligovo (Uritzk), Volodarskoye (former Sergievo) and Strelna.

The Narvsky Triumphal Gates were erected in 1814 to celebrate the return of the Russian Guards from the Paris campaign.

When first built the Narvsky Gates were made of wood; in 1834 they were replaced by an imposing stone and cast iron construction made after the design of the architect Stassov. The figures of warriors, Victory and Glory are the work of Demuth-Malinovsky, the horses were made by Clodt. A continuous row of barricades, obstructions and anti-tank obstacles beginning from the Narvsky Gates blocked the way all along Ulitza Statchek. In the middle of the street there were powerful

fire-nests constructed by the women workers of the Kirov district.

Still further the way to Petrodvoretz crosses a spacious square with a monument to S. M. Kirov (sculptor Tomsy) in the centre. The background of the square is occupied by the House of Soviets of the Kirov district (architect N. Trotzky). This square was also fortified in the days of the Leningrad blockade.

On our way we pass the Kirov Plant, one of the oldest metallurgical and mechanical works of the Soviet Union which is situated in the suburbs. It is the only plant that has been awarded four Government Orders.

This plant was founded in 1789 at Kronstadt as a state iron foundry. In 1801 it was transferred to the territory it is occupying now and in 1868 sold by the Government to engineer Poutilov. At present this great metallurgical and machine building plant is named after S. M. Kirov. During the Great Patriotic War the Kirov Plant played a most important part in the defence of the whole of our country and especially in the defence of Leningrad. The Kirov workers never stopped working. 7000 German shells hit the plant. It was

here that guns and tanks were being repaired and ammunition produced. The watchtower of the Kirov Plant opened a view on the whole forefront line of the German defence. Our front line stretched quite close to the plant. This part of the German front was the nearest to the town.

The area coming next was occupied by the workers' settlement Avtovo with its fine blocks of new buildings. The houses of this settlement were occupied by the division headquarters defending our front line near Uritzk. Avtovo was encircled by powerful fortifications. The Forel Hospital situated on the left side of the Peterhof highroad was the seat of our Command. The forefront Command Groups were quartered in the former Sheremetev Palace and Park from where current battle operations were controlled. The front line of this sector was unstable as it constantly passed from hand to hand. The Germans set up observation posts and fire nests in the adjacent buildings such as the type-writer factory. They pulled up the guns to the second floor and opened direct fire at the highroad.

A monument to the heroic defenders of Leningrad made after the design of

Iogansen and Petrov has been erected to the left from the road on the border of the front line. The German batteries firing at our warships on their way from Leningrad to Kronstadt were located not far from here. The Germans had an open view of the whole gulf and steadily shelled it out of 210 mm. guns. However, by the end of 1943 our command succeeded in transporting a great deal of equipment, artillery, armament, as well as a numerous army to the Oranienbaum base thus preparing a simultaneous attack both from Oranienbaum and from Pulkovo. It was this blow that broke the whole line of the German defence. The fascists were thrown back from the walls of Leningrad by our valiant Red Army.

Covering a distance of 23 km. on our way from Leningrad, we reach Strelna which was severely wrecked by the fascists. This place was first selected by Peter I for the construction of a large country palace and fountains. The building of the Petrovsky (Peter's) Palace was destroyed by fire as early as the XVIII c. It was only in 1804 that the Palace was built anew by the architect Rouska for the prince Konstantine Pavlovitch.

The palace of prince Konstantine is situated in a very picturesque place opening a view on to the sea; it is surrounded by a large garden. It fell victim to the barbarous plunder and devastation of the German vandals. In September 1941 the Germans seized Petrodvoretz and made a mass of wreckage of it.

The Peter and Paul cathedral in the centre of the town was the German observation post from where they could check the artillery fire aimed at our battle-ships sailing across the gulf.

Petrodvoretz, former Peterhof, used to be the Tzar's summer residence. It was founded by Peter I and enlarged by Elizabeth and Nicholas I. Before being wrecked by the fascist barbarians Petrodvoretz represented the greatest artistic and historic ensemble of palaces, parks and fountains erected by the best architects and artists of the XVIII and XIX cc. The architects Leblond and Miketti took part in the construction of „Mon Plaisir“ or „Dutch House“ the first summer country palace that Peter I built on the seashore in the years 1709—1722. The terrace of „Mon Plaisir“ commands a general view of Kronstadt and Leningrad. The Palace consists of the

„Dutch House“ itself and two long galleries terminating with pavilions.

The rooms therein are: the bed-room, Peter's study, the central hall (dining room with a painted arched ceiling), the Japanese cabinet decorated with lacquered panels and two galleries used for official receptions.

Peter used to make a halt at „Mon Plaisir“ when sailing along the Southern coast of the gulf of Finland. The interior decorations of the Palace have been damaged by the fascist vandals.

The part of the building adjoining the Palace on the West is the so-called „Catherine Wing“ built by the architect Rastrelli in 1760. It consisted of a fine stone building which was severely damaged by the Germans and a wooden wing burnt down by them. The latter part of „Mon Plaisir“ contained the private apartments of Catherine II. At a later period Catherine II had the interior decorations of the official apartments remodelled for her grandson, the future Emperor Alexander I, according to the design of the architect Quarenghi.

The construction of the Great Palace was begun by Peter I in 1715. This resi-

dence of the Tzar is a wonderful piece of the world architecture of the XVIII c.

The Palace was erected by the famous French architect Leblond according to whose design it formed an ensemble with the terraces, grotto and fountains.

In 1747—52, at the time of Elizabeth's reign, the Palace was enlarged by the architect Rastrelli who constructed the upper floor and added two galleries to the central building. One of these ends in the Palace Church, the other in the so called „Coat of Arms Pavilion“.

The interior decorations and modelings of the Palace belonging to the times of Peter I, Elizabeth, Catherine II and Nicholas I and made according to the designs of Leblond, Miketti, Rastrelli, Felten, de Lamotte and Stackenschneider were exceedingly impressive by their splendour and delicacy of artistic execution. At the beginning of the war the most valuable objects of the Palace were taken away to remote towns.

The „Upper“ Park situated to the South of the Great Palace was laid out in the manner of French Gardens. It was decorated with a fountain in the centre of which was the sculpture „Neptune and his Retinue“ carried away by the Germans.

The marble statues of the parterre are the work of the Italian sculptors of the first half of the XVIII century.

The „Lower“ Park, also laid out in French style, is famous for its palace pavilions and fountains planned out and partly built as early as the time of Peter I. To this period belong, besides „Mon Plaisir“, the „Marly Palace“ with its ponds, the pavilion of the Hermitage, the Samson Grotto at the foot of the Great Palace and the two imposing cascades with fountains on both sides of the grotto.

In the centre of the reservoir in front of the Great Palace stood a gigantic bronze statue of Samson tearing apart the jaws of a lion. A strong jet of water coming from the lion's mouth shot up to the height of 20 m. It is a chef-d'oeuvre of the end of the XVIII c. (sculptor Kozlovsky). It was also carried away by the Germans. During the XVIII and XIX c. in the „Lower“ Park were constructed the Golden Mountain Cascade and a group of fountains near „Marly“, the Lion Cascade, the fountains of Adam and Eve, the Dragon Mountain Cascade, the Roman fountains and a group of fountains near „Mon Plaisir“. Having been taken away or buried in good time most of the

fountain sculptures remained undamaged. The devastations in the park are enormous. The Germans did not spare the ancient trees of precious species, they cut down centennial limes using them as anti-tank obstacles.

The small palace of Catherine I „Marly“ was finished in 1725. Leblond and Miketti took part in its construction. „Marly“ contained small private rooms of Catherine I and her children. There are ponds all around the palace. Close by is the orchard that formed part of the „household“ of the country seat of Catherine. The fascist vandals wrecked this priceless building of the XVIII c.

The Hermitage, a small pavilion surrounded by a moat and constructed by the same architect, belongs to the same period.

A reception room and a kitchen were housed in the lower storey; upstairs there was a dining-hall with a table mechanically raised from down below. The walls of the Hall were decorated with pictures of the Flemish school (XVII—XVIII cc.). They remained intact because they were removed in time.

Beyond the „Lower“ Park in the direction of Leningrad we see the Second Peterhof Park with its palaces. This estate of the Tzar was named Alexandria in honour of the wife of Nicolas I. In the XVIII c. it was the site of a „menagerie“. In 1829 the architect Menelas built a new „Cottage Palace“ for the family of Nicolas I imitating English cottages. Inside the palace there is no gorgeous luxury of the times of Elizabeth and Catherine as the principal aim was to make the palace comfortable, cosy and exquisitely simple. In the Alexander Park is the Palace Church „the Chapel“ built in the thirties of the XIX c. according to the design of the architect Schinkel. Quite close to the Chapel is the Farmer's Palace“, the summer residence of Alexander II, constructed by Stackenschneider in 1841. The „Lower Palace“ built by Tomishko late in the nineties of the XIX c. was situated on the eastern border of Alexandria near the sea. This was the summer residence of the last Romanovs. The palace was wrecked by the Germans.

Two cars of the Tzar's train stand in Alexandria close to the cottage. The train was formed as early as 1902 but it was used by Nicholas only in 1914—1917. It

was in one of these cars that Nicholas signed the manifesto of his abdication in 1917.

Petrodvoretz, the greatest achievement of Russian art, atrociously destroyed and profaned by the German fascist Barbarians will be restored.

ANNIVERSAIRE DE L'ACADEMIE DES SCIENCES

1725—1945

Léningrad — Pétrodvorets (Péterhof)

Le chemin de Léningrad à Pétrodvorets passe par la Porte de Narva; on longe ensuite la rue des Grèves et, passant devant l'usine Kirov (ci-devant Poutiloff), l'on débouche sur la chaussée de Péterhof que l'on suit, traversant Ligovo (Ouritsk), Volodarskoïe (ci-devant Serghievo) et Strelna.

La porte de Narva fut construite en 1814 en l'honneur de la rentrée triomphale de l'armée russe revenant de Paris. L'ancienne construction en bois fut remplacée en 1834 par un arc monumental en pierre et en fonte d'après le dessin de l'architecte Stassov. Les statues des Guerriers, de la Victoire et de la Gloire sont faites d'après les médailles de Demuth-Malinovsky; les chevaux sont du sculpteur Clodt. Pendant les années 1941—43 la rue des Grèves à partir de la Porte de Narva fut coupée par une série de barricades, par des abatis et des barrages antichars. Au milieu de la rue s'élevaient de puissants blockhaus, construits par les cuvrières du quartier Kirovsky.

Plus loin le chemin de Pétrodvorets traverse une large place au milieu de laquelle s'élève le monument de Kirov par le sculpteur Tomski. Au fond de la place se trouve la Maison des Soviets du quartier Kirovsky, édifice construit par l'architecte N. Trotski. La place était fortifiée pendant le blocus de Léninegrad.

A l'extrémité de la ville se trouve l'Usine Kirov, une des plus anciennes usines métallurgiques et mécaniques de L'Union Soviétique, la seule quatre fois décorée. C'était d'abord une fonderie établie en 1789 à Cronstadt. Transférée à Pétersbourg en 1801, elle fut vendue par l'Etat à l'ingénieur Poutiloff en 1868. A présent ce sont les plus grands ateliers de constructions de machines. Pendant la Grande Guerre pour la Patrie cette usine qui porte le nom de S. M. Kirov a joué un grand rôle dans la défense de tout notre pays et surtout dans celle de Léninegrad. Pas un seul jour les ouvriers héroïques de l'usine n'interrompirent leur travail malgré les 7000 obus ennemis dont elle était le but. On y faisait la restauration des canons, des chars de combat, on y produisait des munitions de guerre. De l'observatoire de l'usine on voyait tout l'extrême bord des lignes allemandes. La

ligne de feu était juste derrière l'usine. C'étaient les positions allemandes les plus rapprochées de la ville. Au-delà de l'usine Kirov se trouve le coron Avtovo avec ses belles maisons nouvellement construites. C'est là qu'étaient installés les états-majors des divisions qui défendaient nos positions près d'Ouritsk. Avtovo était ceint de fortifications. Nos postes de commandement étaient dans l'hôpital Forel sur la chaussée de Péterhof. Les postes de commandement avancés étaient disposés là, où se trouvait autrefois le palais de Chérémétev. Sur ce secteur du front les positions avancées n'étaient pas stabilisées et passèrent à tour de rôle dans nos mains et dans celles des Allemands. Le commandement allemand transforma les maisons des alentours en observatoires et en postes de combat, par exemple l'usine des dactylotypes. Les Allemands montaient des pièces d'artillerie à l'étage supérieur et tenaient la chaussée sous le feu à pointage direct.

Du côté gauche de la route, là où était l'extrême bord des lignes, on voit un monument en mémoire des défenseurs héroïques de Léninegrad, oeuvre des architectes Iogansen et Pétrov. A quelque distance étaient disposées les batteries allemandes; de cet

endroit les Allemands pouvaient voir tout le golfe et tenaient sous le feu des pièces de 210 mm nos vaisseaux qui se dirigeaient de Léninegrad à Cronstadt. Malgré cela, vers la fin de l'année 1943, notre commandement réussit à transférer sur la place d'armes d'Oranienbaum une grande quantité de matériels, d'artillerie, de munitions de guerre, et une armée de plusieurs milles combattants pour organiser une attaque simultanée du côté de Poulkovo et d'Oranienbaum. Cette attaque a brisé la défensive allemande. L'héroïque Armée Rouge a rejeté les fascistes de Léninegrad.

A 23 km de Léninegrad se trouve Strelna que les Allemands ont impitoyablement détruite. Pierre I avait choisi d'abord ces lieux pour y construire un palais et des fontaines. Le bâtiment du Palais de Pierre avait été détruit par l'incendie encore au XVIII siècle et ce n'est qu'en 1804 qu'il fut reconstruit par l'architecte Rouska pour le prince Konstantin Pavlovitch. Le Palais de Constantin (Constantinovski), entouré d'un grand parc, est situé dans un endroit pittoresque, d'où s'ouvre une vue magnifique sur la mer. Le Palais fut la victime des vandales fascistes allemands qui le détruisirent.

Au mois de septembre 1941 les Allemands s'emparèrent de Pétrodvorets et y produisirent des destructions monstrueuses.

La cathédrale Pierre et Paul au centre de la ville a servi aux Allemands d'observatoire pour la correction du feu ayant pour but nos vaisseaux qui passaient dans le golfe.

Pétrodvorets, ci-devant Péterhof, était jadis la résidence d'été des tzars. Il fut fondé par Pierre I et agrandi par la tsarine Elisabeth et par Nicolas I. Jusqu'au moment de sa destruction par les barbares fascistes Pétrodvorets présentait le plus célèbre ensemble historique et artistique de palais, de parcs et de fontaines créé par des architectes et par des artistes éminents du XVIII et du XIX siècles. Le premier palais d'été de campagne de Pierre I „Monplaisir ou Maisonnnette hollandaise“ fut bâti entre les années 1709—1722 avec le concours des architectes Leblond et Miketti. La place devant Monplaisir offre une belle vue sur Cronstadt et sur Léningrad. Le palais se compose de la partie centrale — „Maisonnnette hollandaise“ proprement dite — et de longues galeries aboutissant aux pavillons.

A l'intérieur se trouvent la chambre

à coucher et le cabinet de travail de Pierre I, la grande salle servant de salle à manger avec la voûte peinte, la cuisine, le cabinet en style japonais, garni de panneaux de laque japonais et deux galeries pour la réception des hôtes.

Pendant ses voyages fréquents sur la côte sud du golfe de Finlande Pierre I descendait à Monplaisir. L'intérieur du Monplaisir fut endommagé par des vandales fascistes.

Un autre bâtiment „Corps de logis de Catherine“ construit par l'architecte Rastrelli en 1760 sous le règne d'Elisabeth touche Monplaisir du côté d'ouest. Il se composait d'un grand bâtiment en pierre presque détruit par les Allemands et d'une aile en bois qu'ils ont brûlée. Dans cette aile se trouvaient les chambres de Catherine II. Plus tard Catherine II fit refaire pour son petit-fils Alexandre l'intérieur des salles de réception d'après les dessins de l'architecte Quarenghi.

En 1716 par l'ordre de Pierre I fut commencée la construction du Grand Palais. Cette résidence des tzars est un des chefs d'oeuvre de l'architecture mondiale du XVIII siècle.

Son créateur est le célèbre architecte français Leblond, dont le projet était de créer un grand ensemble — le palais avec les terrasses, la grotte et les fontaines.

Sous le règne d'Elisabeth entre les années 1747—1752 l'architecte Rastrelli agrandit le palais, y ajouta le troisième étage, fit construire une église au bout d'une galerie et „Le corps des armoiries“ au bout de l'autre.

La décoration intérieure du palais qui produisait un effet frappant par sa splendeur et la finesse d'art avec laquelle elle est exécutée est dû aux plusieurs générations d'architectes Leblond, Miketti, Rastrelli, Felten, Delamotte et Stakenschneider, qui y travaillèrent successivement sous les règnes de Pierre I, d'Elisabeth, de Catherine II et de Nicolas I.

Heureusement au commencement de la Guerre pour la Patrie les objets d'art les plus précieux avaient été transportés au fond du pays, le reste fut détruit par les Allemands.

Du côté sud du Grand palais est situé le Jardin supérieur du style des jardins français. Son ornement le plus remarquable était une fontaine avec le groupe sculpté

„Neptune et sa suite“, enlevé par les Allemands.

Les statues de marbre au parterre sont l'oeuvre des artistes italiens de la première moitié du XVIII^e siècle.

Le Jardin inférieur, aussi du style français, est remarquable par ses bâtiments et ses fontaines, dont le projet fut dressé et partiellement réalisé déjà par Pierre I. Sous son règne furent construits dans le Parc inférieur, outre Monplaisir, le palais Marly avec ses Etangs, le pavillon Ermitage et, au pied du Grand palais, la grotte de Samson flanquée de cascades grandioses avec des fontaines. Au centre du bassin devant le Grand palais était la statue gigantesque en bronze de Samson qui déchire la gueule du lion et en fait jaillir à la hauteur de 20 mètres un puissant jet d'eau. Cette admirable oeuvre d'art de la fin du XVIII^e siècle, créée par le sculpteur Kozlovsky, est aussi enlevée par les Allemands.

Au XVIII—XIX siècles dans le Parc inférieur furent construits: la cascade Montagne d'or et le groupe des fontaines près de Marly, la Cascade des Lions, Adam et Eve, la Montagne des Dragons ou de l'Echiquier, les Fontaines Romaines et un groupe de fontaines autour de Monplaisir.

On a réussi à transporter ou à enterrer la plupart des sculptures, grâce à quoi elles sont restées intactes. Les dévastations dans le parc sont immenses; les Allemands n'ont pas ménagé les arbres séculaires de rares espèces, ils abattaient des tilleuls de cent ans pour en construire des barrages anti-chars.

En 1725 fut achevée la construction du petit palais de Catherine I — Marly; les architectes Leblond et Miketti y prirent part. Dans ce palais se trouvaient les chambres de la tsarine et de ses enfants. Le palais est entouré d'étangs. Non loin se trouve un jardin fruitier, qui faisait partie de la propriété de la tsarine. Ce chef-d'oeuvre du XVIII siècle est aussi détruit par les Allemands.

En même temps que Marly et par les mêmes architectes fut bâti l'Ermitage, un petit pavillon entouré d'un fossé.

Au rez-de-chaussée étaient la salle de réception et la cuisine, au premier étage — la salle à manger au milieu de laquelle était placée une table munie d'un certain mécanisme qui permettait d'abaisser et de remonter le milieu de la table, ainsi que chaque couvert en particulier. Les murs de la salle étaient ornés de tableaux des pein-

tres flamands du XVII—XVIII siècles qui, ayant été transportés dans des lieux sûrs, sont restés intacts.

Au-delà du Jardin inférieur, du côté de Léninegrad est situé le Second Parc de Péterhof. Cet endroit fut appelé Alexandria en l'honneur de l'épouse de Nicolas I. Au XVIII siècle il y avait une ménagerie. Un nouveau palais à l'imitation des cottages anglais fut construit par l'architecte Ménélasse pour la famille de Nicolas I. On n'y trouve pas le luxe exubérant des temps d'Elisabeth et de Catherine. On s'était surtout attaché à créer un intérieur confortable d'une simplicité gracieuse. Dans le parc il y a une église de la cour — la Chapelle, construite dans les années 30 de XIX siècle d'après le projet de l'architecte Schinkel. Non loin de la Chapelle se trouve le palais d'été d'Alexandre II, La Ferme, construite en 1841 par Stakenschneider. Tout près de la mer, du côté d'est d'Alexandria, était situé le Palais Inférieur, construit par l'architecte Tomichko vers la fin des années 90 du XIX siècle. C'était la résidence d'été des derniers Romanov. Le Palais est détruit par les Allemands.

Dans Alexandria, près du Cottage, se trouvent deux wagons du train du tzar,

УЧАСТНИКУ ЮБИЛЕЙНОЙ СЕССИИ
АКАДЕМИИ НАУК СССР



ЭКСКУРСИЯ ЛЕНИНГРАД — ПУШКИН

УЧАСТНИКУ ЮБИЛЕЯ АКАДЕМИИ НАУК СССР

1725—1945

ЛЕНИНГРАД—ПУШКИН

От Сенной площади в южном направлении идет одна из центральных магистралей города — Международный проспект. До революции он назывался Забалканским: на этом проспекте столица встречала русские войска, возвращавшиеся с турецкой войны 1877—1878 гг.

В начале Международного проспекта, на правой стороне — здание Института инженеров железнодорожного транспорта, украшенное мемориальной доской: в зале Института выступал В. И. Ленин.

За Фонтанкой направо — верстовой столб екатерининского времени; далее в саду — здание с башней. Это бывшая Палата Мер и Весов, ныне Институт метрологии, недавно отметивший свой столетний юбилей. Во дворе Института — памятник Д. И. Менделееву.

Налево на площади перед зданием Химико-Технологического института имени Ленинградского Совета — памятник

Г. В. Плеханову работы скульптора Гинзбурга.

Далее по Международному проспекту направо начинается район, где с XVIII в. располагались казармы Измайловского полка. Особняк с садом на углу 4-й Красноармейской — «Дом Плеханова», — филиал Государственной Публичной библиотеки имени М. Е. Салтыкова-Щедрина. До революции в этом доме помещалось Вольное Экономическое общество; в 1905 г. здесь заседал Петербургский Совет рабочих депутатов, на заседаниях которого присутствовал В. И. Ленин.

На углу Обводного канала в начале Отечественной войны был построен укрепленный узел обороны с дотами и противотанковыми препятствиями.

Во время войны Международный проспект был центральной фронтовой магистралью. Множество огневых точек было построено в окрестных домах; проспект пересекали баррикады. В дни блокады проспект связывал город с фронтом. Московский и Кировский районы больше всего пострадали от артиллерийских обстрелов и бомбежек. Следы их видны на многих зданиях. До войны район усиленно застраивался. Здесь расположены круп-

ные заводы. В суровые дни обороны города заводы ни на один день не прекращали работы, производя вооружение и боеприпасы для фронта. Сразу же за заводскими корпусами начинались наши артиллерийские позиции.

Продолжением Международного проспекта служит Московское шоссе, проходящее по направлению Пулковского меридиана. За виадуком во время блокады был первый контрольный пост проверки документов.

Недалеко отсюда расположен завод Электросила имени С. М. Кирова, не прекращавший работы в дни блокады, а в 1942 г. возобновивший производство сложной электропродукции для нужд всей страны. Электросила — первенец восстановления ленинградской промышленности после блокады.

От завода Электросила вплоть до Пулкова тянется укрепленный район.

Налево — здание своеобразной архитектуры: Автодорожный институт, бывший Чесменский дворец, построенный архитектором Фельтеном в 1780 г. в ложно-готическом стиле. Дворец и особенно его церковь, стоящая рядом, сильно разрушены бомбежками и обстрелами.

Несколько дальше — грандиозное здание Дома Советов, построенное по проекту архитектора Н. А. Троцкого накануне войны. В здание попало много снарядов крупного калибра.

У поворота на Среднюю Рогатку, где был второй контрольный пост, видны остатки бывшего путевого Среднерогатского дворца, построенного архитектором Растрелли для императрицы Елизаветы и сгоревшего около 80 лет назад.

По обочинам шоссе — остатки артиллерийских позиций и огневых точек. До войны шоссе было почти сплошь застроено. Теперь, под Пулковской горой от всего поселка Пулково сохранился лишь полуразрушенный фонтан работы архитектора Тома де-Томона.

На склоне Пулковской горы виден портик работы архитектора Воронихина. Около него — многочисленные следы землянок, где помещались наши передовые части.

Пулковская высота является ключевой позицией обороны всего Ленинграда. Вправо от нее тянется возвышенная гряда, с которой прекрасно виден Ленинград. Налево до берегов рек Тосно и Невы тянется низменная равнина. На юге видны

пушкинские парки, а восточнее — Ижорский завод.

На вершине Пулковской горы — развалины всемирно известной Пулковской обсерватории, построенной архитектором А. Брюлловым в 30-х годах XIX в. и варварски разрушенной немцами.

Осенью 1941 г., после кровопролитных боев, немцы докатились до Пулкова, но героические защитники Ленинграда не дали им возможности захватить ключ к городу — Пулковские высоты. Немцы были вынуждены остановиться и зарыться в землю. На Ленинградском фронте они впервые должны были перейти от наступления к обороне. Начались непрерывные бои за город, продолжавшиеся до конца блокады.

На Пулковских высотах находились командные пункты дивизий и армий, оборонявших этот участок. В январе 1944 г. отсюда началась операция по окончательному освобождению Ленинграда от блокады. Долговременная оборона немцев была сломлена мощными ударами Красной Армии.

Наши войска начали продвижение к Красному Селу. Обходным маневром была взята Воронья гора. Одновременно нача-

лись боевые действия южнее Ораниенбаума.

19 января 1944 г. был опубликован приказ Верховного Главнокомандующего Маршала Сталина об освобождении Ропши и Красного Села. Артиллерийская группировка немцев, обстреливавшая Ленинград из района Беззаботное, оказалась окруженной и уничтоженной.

24 января 1944 г. были освобождены Павловск и Пушкин; 26 января — Гатчина. 27 января Ленинград праздновал свое освобождение от блокады.

Через деревню Кузьмино, выжженную и разрушенную немцами (видны лишь развалины церкви-ротонды работы архитектора Кваренги), можно попасть к Египетским воротам — парадному въезду в город Пушкин. Египетские ворота построены архитектором Менеласом в 30-х годах XIX в. Теперь они полуразрушены.

До войны город Пушкин (бывшее Царское Село) был известен далеко за пределами нашей страны как музейный центр мирового значения и как один из благоустроенных и цветущих городов.

Захватив город 17 сентября 1941 г., немцы истребили или угнали в рабство всех его жителей, город почти полностью

выжгли, а оставшиеся в нем неэвакуированные музейные ценности разграбили.

Немцы превратили город Пушкин в укрепленный район. Его улицы были минированы, перекрестки — перекопаны. По северной оконечности города шли вражеские траншеи переднего края. Вторая линия обороны проходила вдоль бульвара. Здесь стояло огромное количество противотанковой артиллерии.

Налево на углу Колпинской улицы — дом, где жил Пушкин с мая по октябрь 1831 г. За оградой направо виден Александровский дворец, построенный архитектором Кваренги в 1796 г. для внука Екатерины II, будущего Александра I.

Александровский дворец — одно из лучших созданий Кваренги и высокий образец русского классицизма. Перед революцией дворец был постоянной резиденцией Николая II и его семьи.

Во время фашистской оккупации дворец занимала испанская «голубая дивизия», солдаты которой испещрили непристойными надписями и рисунками мраморные стены кваренгиевых зал.

Перед оставлением г. Пушкина немцы пытались взорвать здание. Дворец сильно пострадал от осколков и снарядов. Перед

фасадом немцы устроили кладбище, посреди которого воздвигли свастику на гранитном пьедестале.

Недалеко от Александровского дворца налево расположен лицейский садик, в центре которого высится недавно восстановленный памятник Пушкину работы скульптора Баха (1900 г.). В 1941 г. сотрудники музея надежно спрятали памятник.

Мимо Знаменской церкви, сооруженной архитектором Бланком в XVIII в., мимо Лицея, построенного архитектором Кваренги в 1791 г., прямой путь ведет к Екатерининскому дворцу.

Первый дворец на этом месте построил архитектор Браунштейн (1718—1723 гг.) для Екатерины I. Это были скромные «каменные палаты о 16-ти светлицах». В 1744—1748 гг. дворец перестраивался архитектором Квасовым, а в 1752—1756 гг.—архитектором Растрелли. Здание дворца имеет 306 м в длину. Парадная площадь дворца замкнута полукругом «циркумференций». 4-этажные флигели надстроены архитектором Фельтеном уже во 2-й половине XVIII в.

Дворец, предназначавшийся для парадных приемов и празднеств, был одним

из лучших образцов русского барокко. Здание поражает грандиозностью размеров и пышностью динамичных форм своей архитектуры. Дворец славился внутренним убранством, сделанным по проектам архитекторов Растрелли, Камерона, Стасова и других.

Особенной роскошью отличались залы работы архитектора Растрелли: Картинный, Янтарный и другие. Главным элементом их отделки являлась золоченая резьба по дереву работы русских резчиков.

Необычайно изящна и своеобразна была отделка и убранство комнат Екатерины II работы Камерона: Лионский зал, стеклянная спальня и крохотный голубой будуар «Табакерка» принадлежали к его лучшим созданиям.

Комнаты Александра I и его матери, отделанные архитектором Стасовым, представляли собой неповторимо-целостный ансамбль русского ампира.

Огромное количество мебели, фарфора, картин, бронзы и т. п. предметов художественного убранства заключал в своих залах Екатерининский дворец.

Во время оккупации дворец горел. После разрушения и разграбления его немцами уцелело лишь несколько комнат.

В полуподвальном помещении Зубовского флигеля сидели узники гестапо. Допросы производились в комнатах Александра II. В комнатах его жены помещался штаб испанской «голубой дивизии».

Парки Царского Села были воспеты русскими поэтами, начиная с Ломоносова, Державина и Пушкина и кончая поэтами наших дней.

Часть парка, прилегающая ко дворцу, сохранила старую планировку французского типа. Прямые аллеи украшены скульптурами античных богов и героев. В конце центральной аллеи стоит павильон Эрмитаж, построенный архитектором Растрелли (1746—1752 г.) и предназначенный для пиров без участия слуг.

На берегу Большого озера, вырытого в XVIII в. на месте маленького ручейка Вангазя, виден «Грот», построенный архитектором Растрелли в 1756 г.

Берега Большого озера поражают красотой и разнообразием открывающихся пейзажей. Подражание природе — характерная черта английских пейзажных парков, в стиле которых и разбита эта часть Екатерининского парка.

Здание Адмиралтейства построено архитектором Нееловым в 1773 г. в лож-

но-готическом стиле. В нижнем этаже главного здания до войны помещалась коллекция судов XVIII в. — лодок, ботов, гондол и т. п., а в верхнем была размещена коллекция английских гравюр XVIII в. Здесь же помещался грандиозный Готторпский глобус, сделанный в «Российской де-сиянс Академии» при участии лучших ученых XVIII в. по образцу привезенного Петром из Голштинии. Немцы украли глобус, сломав пол и перекрытие.

В центре озера за большим островом со зданием танцевального «зала на острову» видна Чесменская роstralная колонна, воздвигнутая архитектором Ринальди в честь победы русского флота над турецким в Чесменской бухте (1770 г.).

На берегу белеет павильон «Турецкая баня», построенный архитектором Монигетти в 1852 г. в память побед русского оружия в турецкой войне 1828—1829 гг.

Через Сибирский мостик, созданный по образцу постройки архитектора Палладио (XVI в.) из сибирского мрамора, можно попасть к разрушенному зданию бывшей купальни XVIII в. До войны здесь

помещался Зеленый театр, где происходили концерты и гуляния на открытом воздухе. Здесь немцы расстреливали русских патриотов.

Недалеко от гранитной пристани — статуя «Молочница» работы скульптора Соколова (1810 г.), воспетая Пушкиным в стихотворении «Царскосельская статуя».

Через террасу работы архитектора Руска (1809 г.), построенную на месте Катальной горы XVIII в., минуя Рамповую аллею, можно подняться в Собственный садик. Здесь находится одна из лучших царскосельских построек Кваренги в классическом стиле — «Концертный зал» и «Кухня-руина», в кирпичную кладку которой архитектор вкомпоновал фрагменты подлинных античных мраморов (обе постройки — 80-х годов XVIII в.). Неподалеку отсюда можно видеть площадку, откуда немцы обстреливали Ленинград из артиллерийских орудий.

Обзор Екатерининского парка заканчивается у Кагульского обелиска, поставленного в честь победы при реке Кагуле, одержанной русской армией под руководством Румянцева в 1770 г.

*THE 220th ANNIVERSARY OF THE
ACADEMY OF SCIENCES*

1725—1945

LENINGRAD — PUSHKIN

One of the main thoroughfares of Leningrad — the Mezhdunarodny Prospekt stretches in the southern direction from Sennaya Square. Before the revolution it was named Zabalkansky Prospekt. This avenue was the place where the capital greeted the Russian troops returning from the Turkish war of 1877—1878.

On the right side where the Mezhdunarodny Prospekt begins we see the building of the Institute of Engineers of Railroad communication. The building is decorated with a memorial board in honour of Lenin's speech delivered at the Institute.

To the right, just across the Fontanka bridge, there is a mile stone dating from the times of Catherine the Great, further on — a towered building in a garden. This is the Metrology Institute, the former Board of Weights and Measures that recently celebrated its 100th anniversary.

In the Institute courtyard there is a monument to D. Y. Mendeleev. In front of the building of the Chemico-Technological Institute bearing the name of the Leningrad Soviet is the monument to G. V. Plekhanov, the work of the sculptor Guinzburg.

To the right, next in turn, comes the district, where the barracks of the Izmailovsky regiment were situated from the XVII century up to the time of the October Revolution. Plekhanov's private house with a garden before it is situated at the corner of the 4-th Krasnoarmeiskaya street. It is a branch of the State Public Library named after Saltikov-Shchedrin. Before the Revolution the Free Economic Association occupied that house. Sitzings of the Soviet of the Workers' Deputies often attended by Lenin used to be held in this house in 1905.

At the beginning of the Great Patriotic War a fortified complex defence post was set up at the corner of the Obvodny Canal. During the war the Mezhdunarodny Prospect was the main front line. Numerous fire nests were set up in the adjacent houses, whereas the street itself was blocked with barricades and anti-tank obstacles.

This street connecting the city with the Moscow district was damaged most of all by artillery fire and bombing. The demolished houses all around bear traces of these attacks.

A large scale construction of new houses was carried on in this district before the war. Many big works are situated here. These plants did not stop their work for a single day during the gloomy and trying days of the blockade, producing armament and ammunition for the front. Our artillery positions were located just beyond these plants.

The Mezhdunarodny Prospect runs into the Moscow asphalted highroad extending along the Pulkovo meridian. In the days of the blockade the first post where documents were verified was beyond the viaduct.

Next comes the plant Elektrosila (Electrical Power) named after S. M. Kirov. It never stopped working during the blockade, and in the year 1942 it began again to turn out its former complicated electrical production to meet the requirements of the country. This plant was the first in Leningrad to have been brought back to its former state.

The fortified front district of the heroic defence of Leningrad was stretching from the plant Elektrosila down to Pulkovo. To the left there is a building of peculiar style. It is the Institute of Automobile Communication, the former Tchesma Palace, built in pseudo-gothic style in the year 1780 by the architect Felten. The Palace and especially the adjacent church were wrecked by bombs and shell fire.

A little farther one can see the imposing building of the House of Soviets erected just before the war by the architect N. Trotzky. The building has suffered from heavy shelling. The remains of the Sredniaya Rogatka Palace constructed for the Empress Elizabeth by the architect Rastrelli to serve as a halting place on the way to Tzarskoye Selo and destroyed by fire about 80 years ago can be seen at the turning to Sredniaya Rogatka. At this point the documents were to be verified for the second time. Along the sides of the highroad we can still see the remains of artillery positions and fire-nests. In the pre-war time houses formed an almost continuous line along both sides of the highroad.

The only erection still standing amidst the débris of the village Pulkovo is the

half-ruined fountain constructed at the foot of the Pulkovo Hill by architect Thomas de Thomon.

A portico, constructed by architect Voronikhin may be seen on the slope of the Pulkovo Hill. All around there are traces of numerous dug-in huts of our front line units.

The Pulkovo Hill is the key point of the defence of Leningrad which is to be seen from another hill to its right. The lowland to the left stretches down to the banks of the rivers Tosno and Neva. In the southern direction we see the Pushkin Parks, in the South-East—the Izhorsky Plant. On the top of the Pulkovo Hill are the ruins of the famous Pulkovo Observatory built in the thirties of the XIX century by the architect Brullov. The Observatory has been barbarously wrecked by the Germans. When they reached Pulkovo in Autumn 1941 after many fierce battles, the heroic defenders of Leningrad did not let them seize the key-point of the town—the Pulkovo Hills. The enemy was forced to stop and began digging into the ground. This was the first time since the beginning of the war when the Germans had to give up the offensive and take up the defensive

tactics. Incessant battles began. The commanding posts of the division and armies defending this section were located on the Pulkovo Hills, from where they started their strategic manoeuvre to liberate Leningrad from the blockade. The heavy blows inflicted by our army broke the German long term defence.

Our forces started advancing in the direction of Krasnoye Selo. The Voronia (Crow) Mountain was occupied by means of a flank manoeuvre. Simultaneously military actions began to the South of Oranienbaum.

On January 19th the Supreme Commander in Chief marshal Stalin issued an order declaring that Ropsha and Krasnoye Selo were freed from the enemy. The German Artillery group firing at Leningrad from the district of Bezabotny village was surrounded and exterminated.

On January 24th the enemy was driven out of Pavlovsk and Pushkin; on January 26th the Germans were forced to leave Gatchina. On January 27th, 1944 Leningrad celebrated the raising of the blockade.

Passing the village Kuzmino, utterly demolished and burnt to the ground, we see nothing but the ruins of the rotunda-church—the work of the architect Qua-

renghi. The Egypt Gates not far from the village served as official entrance into the town Pushkin. The Egypt Gates which are somewhat damaged were erected by the architect Menelas in the thirties of the XIX century. Before the war Pushkin (former Tzarskoye Selo) was well known far beyond the boundaries of our country both as a centre of museums of world importance and as a prospering town. Pushkin was occupied by the Germans on September 17th, 1941, its inhabitants were either killed or driven away as slaves. The Germans burnt down the town and plundered all the museums of the valuable objects that had not been evacuated.

The Germans transformed Pushkin into a fortified region, mining the streets and digging trenches at every crossing.

The enemy trenches of the fore-front line were stretching along the northern boundary of the town. The second defence line passed along the boulevard. An enormous quantity of anti-tank artillery was centred there.

To the left, at the corner of Kolpinskaya street we see the house where Pushkin lived from May to October 1831. The Alexander Palace is seen

to the right. It was constructed by the architect Quarenghi in 1796 for the grandson of Catherine the Second—the future emperor Alexander I. This Palace is one of the best achievements of Quarenghi and is considered to be one of the finest specimens of the Russian classic style. Before the Revolution this Palace used to be the permanent residence of the tzar Nicolas II and his family. The Spanish Blue Division was quartered in the palace when it was occupied by the fascists. The soldiers made indecent inscriptions and drawings upon the marble walls of the Quarenghi Halls.

The Germans tried to blow up the building before leaving Pushkin. The Palace was severely damaged by shell fragments and shells. In front of the Palace the Germans made a graveyard in the centre of which they erected a granite stand with a swastika at the top.

To the left from the Alexander Palace we see the Lyceum Garden, with a monument to Pushkin (sculptor Bach, 1900) that was recently restored to its former place. In 1941 it had been safely buried by the museum workers.

The Lyceum was built in the year 1791 by the architect Quarenghi.

Leaving to the left the Znamensky Church constructed by the architect Blank in the XVIII century and passing the Lyceum we come to the Catherine Palace.

The first Palace built here was constructed for Catherine I (1718—1723) by the architect Braunstein. It was a small stone house containing 16 rooms. In the year 1744—1748 the palace was reconstructed by the architect Kvassov and in 1752—1756 remodelled again by Rastrelli. The Palace is 306 m. long. The circle round the palace square used for parades is bound on the side opposite the palace by a semicircular building—the "Circumference".

The four-storied wings were added to the main building by the architect Felten as late as the second half of the XVIII century. This Palace intended for official receptions and festivals was the best specimen of the Russian baroque style. The imposing dimensions and luxurious architectural ornaments of the building are amazing. The Palace was famous for its interior decorations accomplished according to the designs of the architects Rastrelli, Cameron, Stasov and others.

The splendid halls (Rastrelli's work) such as the Picture hall, the Amber Room and some others were most magnificent.

Their principal adornments were the gilded carvings on wood made by the best Russian craftsmen. The decorations of Catherine's rooms (the work of Cameron) are extremely elegant and original. Cameron's masterpieces are the Lyons hall, the glass bed-room and the miniature blue boudoir—the so-called "sauf box".

The rooms of Alexander I and those of his mother made after the design of the architect Stassov represent an unsurpassed ensemble in the Russian Empire style.

The halls of the Catherine palace enclosed an enormous quantity of furniture, china, pictures, bronze objects and other decorative specimens of fine art.

A fire broke out in the Palace during the German occupation. Only a few rooms escaped complete destruction after the building had been wrecked and plundered by the enemy. The "Gestapo" kept its prisoners in the basement of the Zubov's wing.

Inquests were held in the rooms of Alexander II. His wife's rooms were occupied by the Headquarters of the Spanish Blue Division.

The Parks of Tzarskoye Selo have been highly praised by the Russian poets of several centuries, such as—Lomonossov, Der-

zhavin, Pushkin and many poets of our days. The part of the park close to the Palace, laid out in French style, still preserves its previous French planning. The statues of ancient gods and heroes decorate the straight alleys. The central alley leads to the Hermitage constructed by the architect Rastrelli (1746—1752). It was reserved for festivals without the presence of servants. Instead of the small Vangazi brook of the XVIII century we find the Big Lake with an harbour (Grotto) built by Rastrelli in 1756.

A walk along the shore of the Big Lake leaves an impression of beauty and variety of scenery. Imitating nature is the principal feature of a park laid out in English style. The Admiralty building was erected in the pseudo-gothic style by the architect Neelov in 1773. Before the war on the ground floor there was a collection of the XVIII century boats, skiffs and gondolas. A collection of English engravings of the XVIII century were housed on the upper floor. The enormous Gottorp globe made at the Russian Academy of Sciences was set up in that building. The best scientists of the XVIII c. participated in modelling this globe after the design of the one brought by Peter

the Great from Holstein. Having broken the floor and inter-floor beams, the Germans carried the globe away. The rostral Tchesma column erected by the architect Rinaldi in honour of the victory of the Russian navy over the Turkish fleet at Tchesma Bay (1770) towers in the centre of the Lake. In front of it there is a large island with the building of the "Island Dancing Hall".

A pavilion named the Turkish Baths stands on the shore. It was built by the architect Monighetti in 1852 as a memorial of Russian victories in the Turkish war of 1828—1829. Crossing the Siberian Bridge made of Siberian marble and patterned after the bridge of the XVI c. by Palladio one can reach the ruins of the former bathing house of the XVIII century. Before the war this place was occupied by the Green Theatre where concerts were generally held and feasts arranged in the open air. It was here that the Germans used to execute the Russian patriots.

Not far from the Granite landing place there is a statue "the Milkmaid". Pushkin extolled its beauty in his poem "The Statue of the Tzarskoye Selo".

Crossing the terrace (architect Rusca, 1809) constructed on the site of the Katalnaya Gorka (hill for sliding) and past the Border Alley we come to the Private Garden of the Empress. Here we find Quarenghi's masterpieces in classic style dating from the eighties of the XVIII c. These are the "Concert Hall" and the "Kitchen" (an imitation of ancient ruins) the brickwork of which is relieved by fragments of genuine antique marble. Close by is a small square where the Germans set up their long-range guns to shell Leningrad.

The excursion to the Catherine Park terminates near the Cagul Obelisk erected in honour of the victory won by the Russian army commanded by Rumiantzev near the river Cagul in 1770.

*ANNIVERSAIRE DE L'ACADEMIE
DES SCIENCES
1725—1945 r.*

LENINGRAD — POUCHKINE

C'est dans la direction sud de la place Sennaïa que se déroule une des grandes artères de la ville — la perspective Internationale. Avant la Révolution elle portait le nom de Zabalkansky, car c'est ici que la capitale faisait accueil aux armées russes revenant de la guerre de 1877—1878 avec la Turquie.

Au commencement de la perspective du côté droit se trouve l'Institut des Ingénieurs des chemins de fer, orné d'une plaque commémorative: c'est dans la salle de cet institut que Lénine prononça un discours.

Au delà du canal Fontanka se trouve le poteau indicateur qui date du temps de Catherine II; plus loin nous apercevons au milieu d'un jardin une maison surmontée d'une tour; c'était autrefois la Chambre des Poids et Mesures, actuellement c'est l'Institut Métrologique qui a récemment célébré son centenaire. Dans la cour de l'Institut se trouve un monu-

ment, élevé à Mendeléev. A gauche de la Place devant l'Institut Technologique, s'élève le monument de Plékhanov — oeuvre de Ghinsbourg.

En suivant la perspective Internationale, nous arrivons à un quartier, où à partir du XVIII siècle se trouvaient les casernes du régiment Ismaïlovsky. C'est là au coin de la 4-me Krasnoarmeiskaïa que nous apercevons au milieu d'un jardin un hôtel où se trouve la Maison Plékhanov, succursale de la Bibliothèque Publique d'Etat Saltykov - Chtchédrine. Avant la révolution cet hôtel était occupé par la Société Economique Libre; c'est ici que le Soviet des députés ouvriers tenait ses séances auxquelles prenait part Lénine. Au début de la Guerre pour la Patrie un noed de résistance fut construit au coin du canal Obvodny. Durant la guerre la perspective Internationale servait de route principale qui reliait le front à la ville. Nombre de nids de résistance se trouvaient dans les maisons des alentours. La perspective était coupée par des barricades. Les quartiers Moskovsky et Kirovsky ont été endommagés plus que les autres par le bombardement aérien et le feu d'artillerie. Maintes maisons en gardent la trace. Avant la guerre

cès quartiers se couvraient avec rapidité de maisons.

Durant les jours de grandes épreuves, les jours de défense de la ville, les usines travaillaient sans relâche pour fournir au front l'armement et les munitions de guerre nécessaires. La ligne de feu commençait derrière les usines. Le prolongement de la perspective Internationale c'est la chaussée de Moscou qui est tracée sur le méridien Poulkovo. Derrière le viaduc se trouvait en 1941—1944 un poste de contrôle où l'on devait exhiber ses papiers; plus loin l'usine „Elektrossila“ (usine S. M. Kirov) qui travaillait sans relâche pendant les jours du blocus et qui en 1942 renouvela la production de l'outillage électrique indispensable au pays. L'usine „Elektrossila“ fut la première à travailler au rétablissement de l'industrie de Léninegrad. De l'usine jusqu'à Poulkovo s'étend la région fortifiée de la défense de Léninegrad.

A gauche se trouve l'Institut de l'industrie automobile. Cet édifice était précédemment le palais de Tchermak construit dans le style pseudo-gothique par l'architecte Felten en 1780. Le palais et surtout son église

ont été à peu près démolis par le bombardement aérien et le feu d'artillerie.

Un peu plus loin s'élève l'édifice grandiose de la Maison des Soviets, construit d'après le plan de l'architecte N. Trotsky la veille de la guerre. L'édifice a été atteint par une grande quantité d'obus de gros calibre.

Au tournant de la chaussée qui mène vers la Sredniaïa Rogatka où se trouvait entre 1941 et 1944 le deuxième poste de contrôle nous voyons les restes d'un palais construit par l'architecte Rastrelli pour la tsarine Elisabeth et détruit par le feu il y a 80 ans. Au bord de la chaussée les restes des positions des batteries et des nids de résistance attirent notre attention. Avant la guerre les maisons s'alignaient des deux côtés de la chaussée.

Au pied de la hauteur Poulkovo, où il y avait un village du même nom, il ne reste plus qu'une fontaine, à demi détruite, de l'architecte Thomas de Thomon.

Sur le versant de la hauteur Poulkovo se trouve un portique construit d'après le dessin de l'architecte Voronichine. Près du portique on voit les restes des gourbis habités par nos soldats de l'avant-garde.

La hauteur Poulkovo était la clef des positions couvrant Léninegrad. A droite s'élèvent des collines d'où on peut voir tout Léninegrad. A gauche jusqu'aux rives du Tosno et de la Néva s'étend une plaine; au sud — les parcs de Pouchkine, à l'est est située l'usine Ijorsky. Au sommet de la hauteur on voit les ruines du célèbre observatoire Poulkovo construit dans les années trente du XIX siècle d'après les plans de l'architecte A. Brullov et détruit d'une manière barbare par les Allemands.

En automne 1941 après des batailles sanglantes les Allemands réussirent à atteindre Poulkovo, mais les défenseurs héroïques de Léninegrad ne rendirent pas les hauteurs — la clef de leur ville. Les Allemands furent obligés de s'arrêter et de se terrer. C'est sur le front de Léninegrad qu'ils devaient pour la première fois passer de l'offensive à la défensive. Des batailles innombrables furent livrées. Sur les hauteurs Poulkovo se trouvait le commandement des divisions et des régiments qui étaient chargées de la défense de ce secteur. C'est au mois de janvier 1944 que commencèrent les opérations qui devaient lever le blocus. Nos troupes remportèrent

la victoire sur l'ennemi après avoir brisé sa défensive.

Nos troupes suivirent la route de Krasnoïé Sélo; la montagne Voronya fut prise par un mouvement débordant. En même temps commencèrent les opérations au sud d'Oranienbaum.

Le 19 janvier 1944 fut publié l'ordre du général en chef le maréchal Staline annonçant la libération de Ropcha et de Krasnoïé Sélo. Le groupement d'artillerie disposé à Bezzabotny d'où il bombardait Lénin-grad fut entouré et anéanti.

Le 24 janvier 1944 furent pris Pavlovsk et Pouchkine, le 26 juin — Gatchina. Le 27 janvier Lénin-grad fêtait la levée du blocus.

En passant par le village Kouzmino, ruiné de fond en comble et réduit en cendres (il n'en reste plus que les ruines de l'église-rotonde — oeuvre de l'architecte Quarenghi), on arrive à la Porte Egyptienne; c'est l'entrée de parade de la ville Pouchkine (ci - devant Tsarskoïe Sélo). Elle fut construite dans les années trente du XIX siècle par l'architecte Ménélasse. Aujourd'hui elle est à demi détruite. Avant la guerre Pouchkine était connu dans le monde

entier comme ville-musée. C'était une ville bien aménagée et florissante.

Après s'être emparé de la ville le 17 septembre 1941 les Allemands exterminèrent ou emmenèrent en esclavage tous les habitants, incendièrent la ville et pillèrent ce qui en restait d'objets d'arts après l'évacuation. Les Allemands construisirent des fortifications dans Pouchkine, minèrent les rues, creusèrent les carrefours. A l'extrémité nord de la ville se trouvait la première ligne de défense ennemie, la deuxième passait le long du boulevard où était concentrée une quantité énorme de l'artillerie anti-chars.

A gauche, au coin de la rue Kolpinskaïa se trouvait la maison que Pouchkine avait habitée de mai à octobre 1831.

A droite s'élève le Palais Alexandre construit en 1796 d'après les plans de l'architecte Quarenghi pour le petit-fils de Catherine II Alexandre.

Le Palais Alexandre, style classique russe, est un des chefs-d'oeuvre de Quarenghi. Avant la Révolution le Palais était la résidence préférée de Nicolas II et de sa famille.

Pendant l'occupation fasciste la division bleue espagnole était installée au palais; les soldats couvrirent les murs de marbre

des belles salles de Quarenghi d'inscriptions et de dessins indécents.

Avant de quitter Pouchkine les Allemands essayèrent de faire sauter l'édifice. Le palais fut en partie détruit par les éclats et les obus. Les Allemands firent un cimetière devant le palais et y élevèrent une croix gammée (svastika) sur un piédestal de granit.

A gauche non loin du Palais Alexandre se trouve le jardin du Lycée au centre duquel s'élève le monument de Pouchkine qui appartient au ciseau du statuaire Bach (1900). Au début de la guerre le personnel du musée avait mis le monument à couvert et on vient de le réinstaller. En traversant l'enceinte de l'église Znamensky, construite d'après le plan de l'architecte Blank au XVIII^e siècle, et laissant de côté le Lycée on sort tout droit au palais Catherine.

En 1718—1723 l'architecte Braunstein bâtit pour Catherine I un modeste Palais en pierre qui avait 16 chambres.

En 1744—1748 le palais fut reconstruit par l'architecte Kvassov et en 1752—1756 par l'architecte Rastrelli. Le palais a 306 mètres de long. La cour d'honneur du palais est fermé par un bâtiment en

de mi-cercle. Il n'y a que les ailes du palais qui furent exhaus sées dans la deuxième moitié du XVIII siècle.

Le palais, où avaient lieu les réceptions et les fêtes de gala, était une des plus belles oeuvres du style baroque russe. L'édifice nous frappe par ses dimensions grandioses et par la splendeur de ses formes dynamiques.

Le palais était célèbre par la richesse de son ameublement et de sa décoration auxquels avaient collaboré les architectes Rastrelli, Cameron, Stassov et autres. Les salles les plus somptueuses, oeuvre de l'architecte Rastrelli, étaient la Salle des tableaux et la Salle d'ambre. Les ornements dorés en bois sculpté, oeuvre des artistes russes constituaient leur beauté principale. La décoration et l'ameublement des chambres de Catherine II (d'après le plan de Cameron), notamment de la Salle de Lyon, de la Chambre à coucher de glaces et du boudoir minuscule bleu — „la Tabatière“ étaient d'une élégance et d'une originalité incomparables.

Les chambres d'Alexandre I et de sa mère ornées par l'architecte Stassov présentaient un ensemble frappant et inoubliable du style empire russe.

Le Palais Catherine renfermait une quantité inouïe de meubles, de tableaux, de porcelaines, de bronzes et de maints objets d'arts.

Durant l'occupation le palais fut pillé et incendié par les Allemands; quelques salles échappèrent aux flammes. Dans les sous-sols de l'aile Zubovsky étaient jetés les prisonniers du Gestapo. L'interrogatoire avait lieu dans les chambres d'Alexandre II. Les chambres de son épouse étaient occupées par l'état-major de la division bleue espagnole.

Les parcs de Tzarskoïe Sélo ont été chantés par Lomonossov, Derjavine et Pouchkine, ainsi que par les poètes de nos jours.

La partie du parc qui touche au palais a conservé son dessin français. Les allées sont droites, ornées de statues représentant les dieux et les héros de l'antiquité. Au bout de l'allée centrale se trouve le pavillon Ermitage construit, par Rastrelli (1746—1752). Ce pavillon devait servir aux festins où la présence des domestiques était interdite.

Au bord du Grand Lac creusé au XVIII^e siècle à la place du ruisseau Vangazia on aperçoit une grotte, construite par Rastrelli.

Les paysages qui s'offrent à nos yeux lorsque nous suivons les bords du Grand Lac, où commence le parc anglais, nous frappent par leur beauté variée.

L'édifice de l'Amirauté, style pseudo-gothique, fut construit en l'année 1779 d'après les plans de l'architecte Néélov. Au rez-de-chaussée du bâtiment central il y avait avant la guerre une collection de vaisseaux datant du XVIII^e siècle — bateaux, canots, gondoles etc. et au premier étage une collection de gravures anglaises du XVIII^e siècle. C'est ici que se trouvait l'énorme globe de Gottorpe fait par „l'Académie des Sciences de la Russie“ avec le concours des plus grands savants du XVIII^e siècle. Ce globe remplaça celui qu'avait apporté de Holstein Pierre le Grand. Les Allemands volèrent le globe en enfonçant le plancher et la couverture.

Au centre du lac, derrière l'île sur laquelle avait été construite la salle de danse, s'élève la Colonne rostrale de Tchermé, oeuvre de l'architecte Rinaldi; la Colonne fut érigée en l'honneur de la victoire remportée par la flotte russe sur la flotte turque dans la baie de Tchermé (1770).

Sur la rive se trouve un pavillon blanc— les „Bains turcs“ — construit par l'architecte Monighetti en 1852 en commémoration de la victoire des Russes remportée dans la guerre de 1828—1829 avec la Turquie.

En traversant le pont Sibirsky en marbre de Sibérie imitant une construction de l'architecte Palladio (XVI s.) on arrive à un pavillon détruit qui au XVIII siècle servait de bains. C'est ici que se trouvait avant 1941 le Théâtre Vert, où habituellement avaient lieu des promenades et des concerts en plein air. C'est ici que les Allemands fusillaient les patriotes russes.

Non loin du quai de granit se trouve la statue — „La Laitière“ du sculpteur Sokolov (1810). Elle fût chantée par Pouchkine dans ses vers „La statue de Tzarskoïe Sélo“.

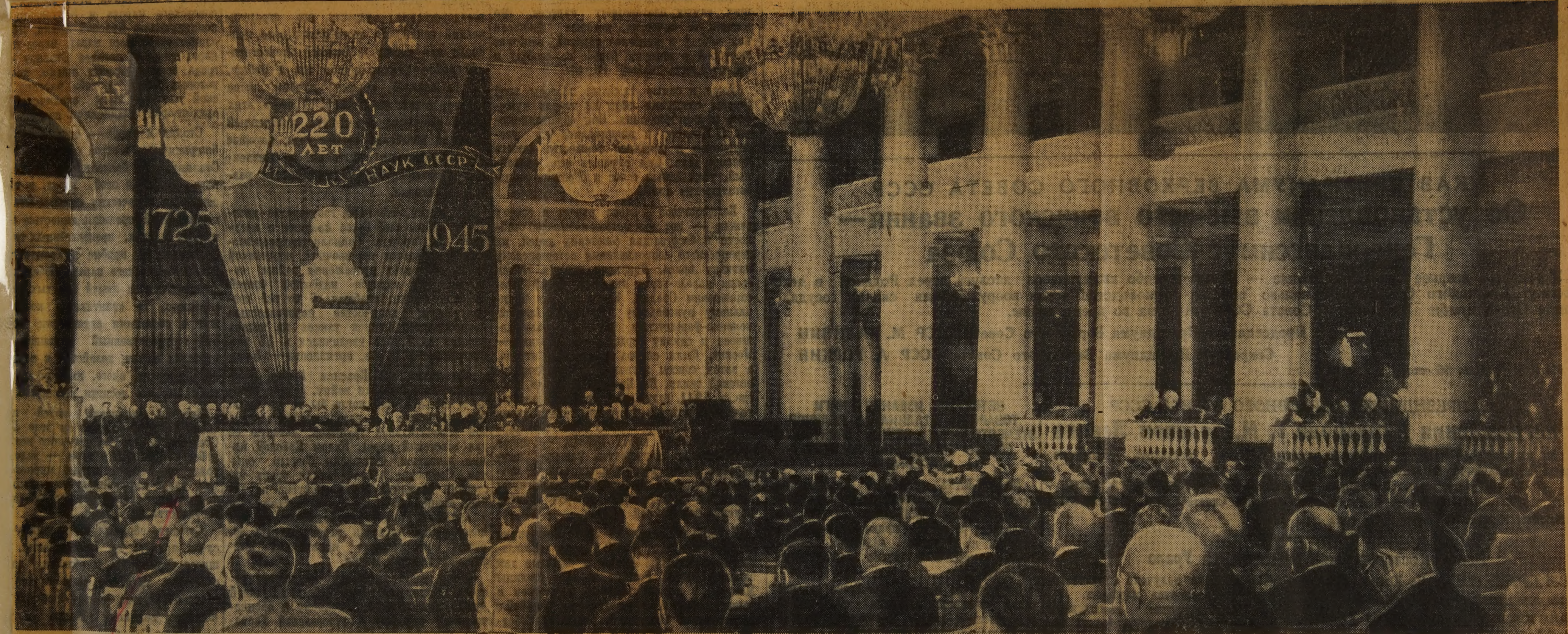
En traversant la terrasse, construite par Rouska (1809), et située à l'endroit de la „Katalnaïa Gora“ (montagne russe) du XVIII siècle, on arrive par l'Allée de Rampe au Petit Jardin Particulier de l'impératrice. C'est ici que se trouve une des plus belles oeuvres de Quarenghi, style classique — „la Salle de Concert“ et „la Cuisine“ — ruine artificielle entre les briques de laquelle l'architecte avait savamment disposé des

fragments de marbres antiques. La Salle de Concert et la Cuisine datent des années 80 du XVIII siècle. Non loin d'ici on aperçoit un terrain sur lequel les Allemands installaient les pièces d'artillerie pour bombarder Léningrad.

La visite du parc Catherine finit devant l'obélisque Kagoulsky qui fût élevé en l'honneur de la victoire remportée sur les rives de la Kagoula par l'armée russe sous le commandement de Roumiantzev en 1770.

Подписано к печати 23/VI—1945 г. М-02829. Объем 1 1/4 п. л.
1,0 уч.-изд. л. Тираж 1000 экз. Зак. № 304.

1-я Типолитография Издательства Академии Наук СССР.
Ленинград. В. О., 9 линия, 12



Юбилейная сессия Академии Наук СССР в Ленинграде. На снимке: торжественное заседание в Филармонии

Фото Д. Трахтенберга

10/1099

В. Бурлаков 45

УКАЗ ПРЕЗИДИУМА ВЕРХОВНОГО СОВЕТА СССР Об установлении высшего воинского звания — Генералиссимус Советского Союза

Установить высшее воинское звание — Генералиссимус Советского Союза, персонально присваиваемое Президиумом Верховного Совета СССР за особо выдающиеся заслуги перед Родиной в деле руководства всеми вооружёнными силами государства во время войны.

Председатель Президиума Верховного Совета СССР М. КАЛИНИН
Секретарь Президиума Верховного Совета СССР А. ГОРКИН

Москва, Кремль. 26 июня 1945 года

УКАЗ ПРЕЗИДИУМА ВЕРХОВНОГО СОВЕТА СССР О награждении Димитрова Г. М. орденом Ленина

За выдающиеся заслуги в борьбе против фашизма наградить Димитрова Георгия Михайловича орденом Ленина.

Председатель Президиума Верховного Совета СССР М. КАЛИНИН
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Москва, Кремль. 26 июня 1945 года

Новое месторождение марганца на Урале

СВЕРДЛОВСК (ТАСС). На Южном Урале выявлен новый марганцевосный район. Выходы марганцевых руд тянутся вдоль железной дороги Челябинск—Орск. При пробной разработке получена руда с содержанием 25 процентов марганца. Новое месторождение расположено вблизи от крупных металлургических заводов.

ЧЕТВЕРТОЕ ИЗДАНИЕ КНИГИ ТОВАРИЩА СТАЛИНА «О ВЕЛИКОЙ ОТЕЧЕСТВЕННОЙ ВОЙНЕ СОВЕТСКОГО СОЮЗА» НА ЯЗЫКАХ НАРОДОВ ДАГЕСТАНА

МАХАЧ-БАЛА (ТАСС). Дагестанское государственное издательство выпустило за годы войны 200-тысячным тиражом доклады, речи и приказы товарища Сталина на русском, аварском, лезгинском, даргинском и других языках народов Дагестана.

Выходит из печати четвертое издание книги товарища Сталина «О Великой Отечественной войне Советского Союза» на языках народов Дагестана.

Сталин — воплощение своих самых лучших, самых благородных качеств. Это именно те качества, которые принесли нам победу в наиболее суровой, наиболее жестокой в истории борьбе за свободу и независимость нашей Родины.

Даже в самые тяжёлые периоды этой борьбы советские люди не теряли мужества и самообладания. Они обращали взоры к Сталину и проникались его уверенностью в конечном торжестве нашего правого дела. Они слушали его спокойный, убеждённый голос и обретали новые богатырские силы.

Безграничное доверие народа к своему вождю — вот где истоки небывалой стойкости и бесстрашия советских людей, их героического сопротивления остервенелому натиску врага. Поистине первым героем среди народа-героя является Иосиф Виссарионович Сталин. Благодаря его гениальному руководству Красной Армией, немецко-фашистские полчища, подобранные к самому сердцу нашей Родины — Москве, были сперва отброшены отсюда, а затем совсем изгнаны из пределов советской земли. На Красной площади, там, где в 1941 году гитлеровские «завоеватели» собирались устроить парад своим войскам, 24 июня 1945 года состоялся величественный парад Победы — яркая демонстрация могущества нашего государства и его вооружённых сил. У подножия Мавзолея Ленина были повергнуты покрытые несмываемым позором знамёна немецко-фашистской армии.

Публикуемый сегодня Указ Президиума Верховного Совета СССР гласит: «Возглавившему Красную Армию в тяжёлые дни защиты нашей Родины и её столицы Москвы, с исключительным мужеством и решительностью руководившему борьбой с гитлеровской Германией, Маршалу Советского Союза Сталину Иосифу Виссарионо-

вичу, символу её непобедимости. Его государственная мудрость, его стратегический гений, его негибкая воля принесли нам победу в Великой Отечественной войне. Сталин привёл нас к Победе, солнце которой яркими лучами ныне озаряет советскую страну. В свете этих лучей явственно виден путь, пройденный нами за последние четыре года, которые по насыщенности событиями, по жизненной напряжённости не имеют себе равных в истории.

Мы видим, что наше государство вышло из войны ещё более крепким и могучим, чем прежде. Социалистическая экономика зиждется на прочной, нерушимой основе. На всём протяжении войны советский тыл являлся надёжной опорой Красной Армии, снабжая её во всё возрастающем количестве первоклассным вооружением. Выпуск танков на наших заводах за 4 года увеличился в 15 раз, самолётов — в 5 раз, артиллерии — в 5 раз.

Мы видим, что Красная Армия, победоносно завершившая войну, сейчас крепче и сильнее, чем когда бы то ни было. Она научилась в совершенстве владеть той замечательной техникой, которую ей дал советский народ. Батальоны Красной Армии закалены, обогащены боевым опытом. Советские военачальники стали мастерами вождения войск, искусно научились применять маневренную тактику. Им в высокой степени свойственно чувство нового. Они показали замечательные образцы практического применения сталинской военной науки.

Всеми успехами нашего социалистического государства, всеми победами Красной Армии, приведшими к полному и окончательному разгрому гитлеровской Германии, мы обязаны Сталину.

Смысл в сочетании этих советского народа и Воюющего Красной Армии олицетворяет наш народ — народ-воин. И награда града всем советским людям, которых несёт в себе советской мысли, силен и одухотворён сталинским

Сталин и народ — о безгранично доверие Сталину, то беспредельная вера в свой неослабевающий творческий силе необычайной проникновения мудрых слов; произнесённые Сталиным на приёме в честь исторического парад дымая тост за людей скромных, за «винтики» жат в состоянии активной государственной деятельности в отраслях науки, хозяйства. Их очень много, им тому что это десятки миллионов

Десятки миллионов своим вождём, борются Сталина. В этом — истинная победа в прошлом, в этом — залог дальнейших побед в будущем, залог дальнейшего экономического могущества государства.

Сегодня, обращая к словам приветия и поздравления Ленинграда и обитателей Ленинграда и обитателей Ленинграда, от всех советских людей, от всех граждан: Слава творцам нашему великому вождю Сталину!

Formal meeting of the Academy in Leningrad
Pravda, June 27, 1945

to destroy all of the works of art, the fountains, and the trees. Then they had set fire to everything that would burn. But the Soviets have assigned a large number of archaeologists to the job and they intend to restore the entire area. There had been time to bury some of the statues in the ground (the Germans found none of these) and they were being reestablished. A few of the large ones had been stolen by the Germans and hadn't been found yet. On the whole, this was a terrible example of wanton destruction. It would seem to me it would be years before this area could be restored for ordinary use.

In the evening I attended a banquet given for the Academy and its guests in the Hall of the Leningrad Soviets. This was a very happy affair with much eating, drinking, and singing. Following the banquet, I took a long walk along the Neva River. At this time of the year the nights in Leningrad are only twilight. One could read a newspaper outdoors at any time. The Neva is wider than I had expected and is very beautiful indeed, as one looks across the water into the silhouette of old towers and monuments.

I should say that Leningrad is the most beautiful city that I have ever seen, save possibly Paris.

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June 28

In the company of Ogg, Crowther, and Muir, I visited the Forest Technical Academy, which was established about 140 years ago as the Forest Institute. This occupies a beautiful woods and park on the north edge of Leningrad but was much hurt from shell fire on the Karelian front.

Research and teaching is carried on in all phases of forestry, including mechanization and civil engineering. The graduates may specialize in one of 17 different lines of work. During the war, part of the staff carried on whereas others helped in the defense of Leningrad. 27 large bombs hit the immediate station and did much damage. 26 staff members were killed and 56 wounded. In a normal year they have 3,280 students, 300 professors, instructors, etc., 120 graduate students, and 1,100 technical workers of various sorts. There are 36 laboratories and 36 lecture halls mostly for students, with 48 chairs (professorships). To enter, students must be graduated from the middle school (about 17 or 18 years old). There are three experimental forests of 55,000 hectares. They also have experimental saw mills and other forest industries, except paper. The forests are out about 20 to 50 miles and were badly damaged by shell fire and burning. There are 67 hectares of park around the buildings.

The staff of the Academy serve in an advisory capacity to those making plantings under a special section of the People's Commissariat for Agricultural Amelioration. Thus the action work appears to be done under the People's Commissariat for Agriculture. This Academy,

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however, belongs to the People's Commissariat of Forest Industries and only advises on action programs.

The total research for forestry might run about 25 million rubles annually, of which 20 is spent by this Academy, not including any expenses for agriculture, chemical industries, or paper-making industries. They estimate that 20 million hectares of forest were destroyed by the Germans, yet they have plenty of timber for reconstruction. The problem here is one of transport. They estimate that 60 percent of the destroyed forest will reproduce naturally but that the rest will need to be planted.

In their forest nurseries they try to maintain a pH of 5.0 for pine seedlings and 6.0 for most of the others. In the nurseries they use potassium, superphosphate, and compost when growing seedlings in Podzol. In very acid Podzols they use rock phosphate rather than superphosphate. They regard fertilizers as unnecessary on Chernozems, where they grow oak, elm, and ash seedlings.

Before the war they had begun a large research program in White Russia on the use of peat lands for both crops and forests, but this was discontinued and has not been reinitiated.

In the park I looked at a very well developed Podzol on sand, like our Rubicon. It may have been an old Ground-Water Podzol on sandy lake laid material, but now the water table was deep.

We had a banquet-lunch in Turin's home. Everything was very nice, although a little sad because his wife had died scarcely two

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At 6:00 p.m. I left Leningrad, with great regret, and took the special train for Moscow. Both going and coming on this train we were asked to write short statements or messages for various press groups.

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June 29

We arrived in Moscow from Leningrad a little after noon. Although the weather had been fine in Leningrad it was again raining in Moscow. After lunch I visited the Lenin Library for a short time and spent quite a bit of time with Bulik sorting out the materials to be sent home. It was interesting to look up one's own books in the card catalogue — which is just like ours. The library is very crowded, but will soon have more space. Two large rooms for children were crowded with a child in every available place at the reading tables.

In the evening we attended a concert at the Bolshoi Opera House. It was the finest program of its kind I have ever seen. There was symphonic music, solo singing, choral singing, and several of the more important Slavonic dances. A part of the program was given by a special group of professional singers and dancers in uniform who were organized to entertain troops.

Dinner was after the concert.

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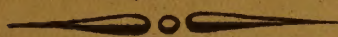
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220
1725 ЛЕТ 1945
Академия Наук СССР



ПРОГРАММА КОНЦЕРТА



МОСКВА
29 июня
1945г.

ГОСУДАРСТВЕННЫЙ ОРДЕНА ЛЕНИНА АКАДЕМИЧЕСКИЙ БОЛЬШОЙ ТЕАТР
СОЮЗА ССР

ПРОГРАММА
КОНЦЕРТА,

ПОСВЯЩЕННОГО

220-летию

АКАДЕМИИ НАУК СССР

29 ИЮНЯ 1945 года

ГОСУДАРСТВЕННЫЙ ОРДЕНА ЛЕНИНА АКАДЕМИЧЕСКИЙ
БОЛЬШОЙ ТЕАТР СОЮЗА ССР

ПЕРВОЕ ОТДЕЛЕНИЕ

РИМСКИЙ-КОРСАКОВ —

Шествие из оперы-балета
„Млада“

исполняет Государственный
симфонический оркестр Союза ССР

ЛОМОНОСОВ —

Отрывок из оды 1747 г.

ДЕРЖАВИН —

Отрывок из лирико-эпического
гимна

исполняет лауреат Всесоюзного
конкурса мастеров художественного
слова Д. Н. ЖУРАВЛЕВ

ПУШКИН —

„Медный всадник“
(отрывок и вступление)

ГЛАЗУНОВ —

Вакхическая песня

РИМСКИЙ-КОРСАКОВ —

Море

исполняет солист Государственного
ордена Ленина Академического Большого
театра Союза ССР А. П. ИВАНОВ
в сопровождении квартета арф под
управлением заслуженной артистки
РСФСР К. А. ЭРДЕЛИ

МУСОРГСКИЙ —

Рассвет на Москва-реке
из оперы „Хованщина“

исполняет Государственный
симфонический оркестр Союза ССР

ЧАЙКОВСКИЙ —

Ариозо воина из кантаты
„Москва“

исполняет заслуженная артистка РСФСР
В. А. ДАВЫДОВА в сопровождении
симфонического оркестра

БОРОДИН —

Ария Кончака из оперы
„Князь Игорь“

исполняет народный артист Союза ССР
М. Д. МИХАЙЛОВ в сопровождении
симфонического оркестра

ГЛИНКА —

Славься

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Ленина Академического Большого
театра Союза ССР,
Республиканская русская хоровая
капелла,
Государственный хор русской песни,
Государственный симфонический оркестр
Союза ССР

Дирижер народный артист РСФСР Н. С. ГОЛОВАНОВ

ВТОРОЕ ОТДЕЛЕНИЕ

ШОСТАКОВИЧ —

Третья часть из фортепианного
квинтета

исполняют автор—композитор

Д. Д. ШОСТАКОВИЧ и заслуженный
коллектив РСФСР Государственный
квартет им. Бетховена в составе
заслуженных деятелей искусств РСФСР
Д. М. ЦЫГАНОВА, В. П. ШИРИНСКОГО,
В. В. БОРИСОВСКОГО и
С. П. ШИРИНСКОГО

РИМСКИЙ-КОРСАКОВ —

Восточный романс

АЛЯБЬЕВ —

Соловей

исполняет лауреат Всесоюзного конкурса
музыкантов-исполнителей

Д. Я. ПАНТОФЕЛЬ-НЕЧЕЦКАЯ
в сопровождении симфонического
оркестра. Дирижер В. Л. ДЕГТЯРЕНКО

РАХМАНИНОВ —

Элегия

исполняют народная артистка РСФСР
Г. С. УЛАНОВА и заслуженный артист
УССР В. А. ПРЕОБРАЖЕНСКИЙ
в сопровождении симфонического
оркестра. Дирижер народный артист
РСФСР Ю. Ф. ФАЙЕР

НАПРАВНИК —

Ария Дубровского

из оперы „Дубровский“

РИМСКИЙ-КОРСАКОВ —

Песня Левка

из оперы „Майская ночь“

исполняет народный артист Союза ССР
И. С. КОЗЛОВСКИЙ в сопровождении
симфонического оркестра
Дирижер В. Л. ДЕГТЯРЕНКО

ГОСУДАРСТВЕННЫЙ АНСАМБЛЬ НАРОДНОГО ТАНЦА СОЮЗА ССР

Художественный руководитель народный артист РСФСР Игорь МОИСЕЕВ

РУССКИЙ ПЕРЕПЛЯС

исполняют: Г. БЕЛИКОВА, Г. ВОЛКОВ,
Н. КАДОВСКИЙ, Л. ТИМОФЕЕВА,
П. ТУРКОВ, Р. УКАРИКОВА и
В. ХАРИТОНОВА

Трио баянистов: Вяч. БОРИСОВ,
В. БОРИСОВ и П. РЫБАКОВ

ГУЦУЛЬСКИЙ ТАНЕЦ „АРКАН“

исполняет мужской состав балета
солисты: гуцул со скрипкой — И. САГАЙ-
ДАЧНЫЙ, двое гуцулов — И. ВОРОНКОВ
и В. РАЕВСКИЙ, гуцул с палкой —
И. КАРТАШОВ, прыжки по кругу —
В. РАЕВСКИЙ

ФРАГМЕНТЫ ИЗ УКРАИНСКОЙ
СЮИТЫ „ВЕСНЯНКИ“.

Солисты: Галина — Н. ПОДГОРЕЦКАЯ
Оксана — Н. ШЕРЕМЕТЬЕВСКАЯ
Грицько — Б. ЛАВРУХИН

Дирижеры: Е. АВКСЕНТЬЕВ и С. ГАЛЬПЕРИН

КРАСНОЗНАМЕННЫЙ АНСАМБЛЬ
КРАСНОАРМЕЙСКОЙ ПЕСНИ И ПЛЯСКИ СОЮЗА ССР
Художественный руководитель народный артист Союза ССР
А. В. АЛЕКСАНДРОВ

АЛЕКСАНДРОВ —
Контата о Сталине
РУССКАЯ НАРОДНАЯ ПЕСНЯ
„Гибель „Варяга“

Солист В. ГЛАЗОВ

СЕРОВ — Песня Еремки из оперы
„Вражья сила“

Солист Л. ЕРОШЕНКО

СОЛОВЬЕВ-СЕДОЙ —
„На солнечной поляночке“

Солист лауреат Всесоюзного конкурса
вокалистов Г. ВИНОГРАДОВ

РУССКАЯ ПЛЯСКА

Дирижер заслуженный артист РСФСР Б. А. АЛЕКСАНДРОВ

Постановщик танцев заслуженный артист УССР П. П. ВИРСКИЙ

Ведет программу М. А. БАЛАКШЕЕВ

„ИСКУССТВО“

June 30

There was some confusion in the morning over our plans. About 11 o'clock I visited the Dokuchaiev Institute of Soil Science and made all my farewells. (There were even tears!) I had already been given a great many maps and other things, but they gave me some more, and also the material about the reconstitution of the International Society of Soil Science.

At his request, I called on Ambassador Harriman at about 1 p.m. and had a long talk with him alone about the whole proceedings, and he gave me a very good lecture on the Soviet Union. I was very well impressed with his sympathetic understanding of the Soviet Union and of the problems of our relations with the Russians. On account of this I didn't get my lunch until after 3 o'clock. I spent some time with the men at the Embassy and took a short look at the museum, of the Revolution.

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June 30

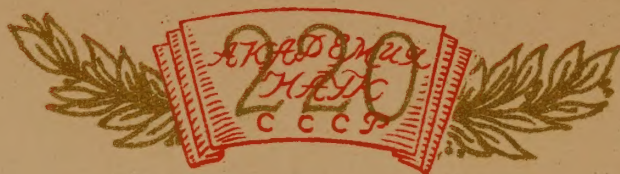
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ПРОГРАММА КУРСА



КДММБ
30 июня 1945

ГЛИНКА —

Увертюра к опере
„Руслан и Людмила“

Исполняет Государственный
симфонический оркестр Союза ССР.
Дирижер народный артист РСФСР
Н. С. ГОЛОВАНОВ

РИМСКИЙ-КОРСАКОВ —

Ария Снегурочки из оперы
„Снегурочка“

Исполняет солистка Государствен-
ного ордена Ленина Академического
Большого театра Союза ССР
И. И. МАСЛЕННИКОВА в сопровож-
дении симфонического оркестра

РОССИНИ —

Ария Розины из оперы
„Севильский цирюльник“

РИМСКИЙ-КОРСАКОВ —

Песня варяжского гостя
из оперы „Садко“

Исполняет народный артист
Союза ССР М. О. РЕЙЗЕН в сопро-
вождении симфонического оркестра

РИМСКИЙ-КОРСАКОВ —

„Пророк“

ЧАЙКОВСКИЙ —

Финал первого концерта для
фортепиано с оркестром

Исполняют лауреат Всесоюзного
и Международного конкурсов
пианистов Э. Г. ГИЛЕЛЬС и Государ-
ственный симфонический оркестр
Союза ССР. Дирижер народный
артист РСФСР Н. С. ГОЛОВАНОВ

КЛАССИЧЕСКИЙ ДУЭТ

Исполняют заслуженная артистка
РСФСР О. В. ЛЕПЕШИНСКАЯ
и заслуженный артист РСФСР
М. М. ГАБОВИЧ

БЛАНТЕР —

Песня о счастье

Исполняет народный артист
Союза ССР И. С. КОЗЛОВСКИЙ

ВЕРДИ —

Песенка герцога из оперы
„Риголетто“

МЕЙЕРБЕР —

Баллада Нелуско
из оперы „Африканка“

РОССИНИ —

Каватина Фигаро из оперы
„Севильский цирюльник“

ГЛИНКА —

„Ночь осенняя“

РУБИНШТЕЙН —

„Перед воеводой молча
он стоит“

ШТРАУС —

Вальс

ЛЫСЕНКО —

Песня Петра из оперы
„Наталка-Полтавка“

РУССКАЯ НАРОДНАЯ ПЕСНЯ

„Родина“

БИШОП —

Жаворонок

АРДИТИ —

Вальс

Исполняет солист Государственного
ордена Ленина Академического
Большого театра Союза ССР
А. П. ИВАНОВ

Исполняет народный артист
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Исполняют лауреаты Всесоюзного
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А. А. РЕДЕЛЬ и М. М. ХРУСТАЛЕВ

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РСФСР С. Я. ЛЕМЕШЕВ

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Д. Я. ПАНТОФЕЛЬ-НЕЧЕЦКАЯ
Партию флейты исполняет
Н. И. ПЛАТОНОВ

КРАСНОЗНАМЕННЫЙ АНСАМБЛЬ
КРАСНОАРМЕЙСКОЙ ПЕСНИ И ПЛЯСКИ СОЮЗА ССР
Художественный руководитель народный артист Союза ССР
А. В. АЛЕКСАНДРОВ

КАЗАЧЬЯ ДУМА О СТАЛИНЕ

РУССКАЯ НАРОДНАЯ ПЕСНЯ

„Гибель „Варяга“

УКРАИНСКАЯ НАРОДНАЯ
ПЕСНЯ

„Закувала та сива зозуля“

ГУНО —

Марш из оперы „Фауст“

Солист В. ГЛАЗОВ

Солист В. ПАНКОВ

НОВИКОВ —

„Вася, Василек“

Солисты В. ПАНКОВ и Г. БАБАЕВ

НОВИКОВ —
Солдатские напевы

Солисты Г. БАБАЕВ, Ю. ЛАУТ
и С. ТИБАЕВ

ВЕРДИ —
Хор из оперы „Риголетто“

СОЛОВЬЕВ-СЕДОЙ —
Соловьи

Солист лауреат Всесоюзного
конкурса вокалистов
Г. ВИНОГРАДОВ

РУССКИЕ НАРОДНЫЕ
ПЕСНИ:

„Калинка“
„Дуня тонкопыха“

Солист В. НИКИТИН
Солист Н. УСТИНОВ

РУССКАЯ ПЛЯСКА

Дирижер заслуженный артист РСФСР Б. А. АЛЕКСАНДРОВ

Постановщик танцев заслуженный артист УССР П. П. ВИРСКИЙ

Ведет программу Н. КУЗНЕЦОВ

Акомпанируют: А. Д. МАКАРОВ, А. Л. ЗЫБЦЕВ,
С. С. ПОГРЕБОВ, Е. А. КАНГЕР

Ведет программу Я. Л. ЛЕОНТЬЕВ

220th Anniversary of Academy of Sciences of USSR

Foreign Guests Pay Tribute To Soviet Science

We publish here statements made to Moscow News by three of the delegates from abroad to the 220th anniversary meeting of the Academy of Sciences of the USSR.

Sir Harold Spencer Jones, F.R.S., The Astronomer Royal, Royal Observatory, Greenwich:

Astronomy is a science which pre-eminently depends on international co-operation: it is impossible to see the whole of the sky in one country. Cooperation is greatly facilitated by personal contacts, which provide opportunity for discussion. One could accomplish more in an hour's discussion than in a month's letter writing.

I was glad to establish and renew personal contacts with many outstanding Soviet astronomers. A number of them I have known only by their work. Such are Academician Shajn, Director of the Simeiz Observatory, Associate of the Royal Astronomical Society, Professor Neymmin, Director of Pulkovo, and many other prominent Soviet scientists of the older and newer generations, as for instance, Corresponding Member of the Academy Ambarzumian. Their work in different fields of astronomy has played a big part in its development.

I was glad to meet Professor Ogorodnikov, whom I met for the first time in the United States in 1931. I was proud for science to see his photograph in Red Army uniform at the Defense of Leningrad Exhibition as one of the defenders of this glorious city.

I was distressed to witness the destruction of Pulkovo Observatory and learned with joy that instruments for measuring the positions of stars had been evacuated. I heard with great interest of plans for rebuilding this observatory on an even larger scale and for building new observatories with powerful telescopes in the South of the Soviet Union.

I hope that the Soviet Union will take part in the work of the International Astronomical Union, which before the war was conducted through many branches.

I was very much interested to find how many of the young Russian scientists speak English with considerable fluency. On returning home I will insist on our scientists learning Russian to be able to read your very valuable astronomical publications.

★ ★ ★

Dr. Irving Langmuir, Nobel Prize, Associate Director of Research Laboratories, General Electric Company:

I am struck by the hospitality and friendliness of Russia and the amount of fundamental, long-range scientific work performed even in wartime.

We in America have done much less of that kind of research in wartime. When we realized that the necessity might arise of sending our army abroad almost all our scientists stopped doing pure research work unconnected with war problems. After Pearl Harbor we were in the war and had so much to do to equip our army. Big laboratories were organized for defense work and they are still the most active centers of research in our country.

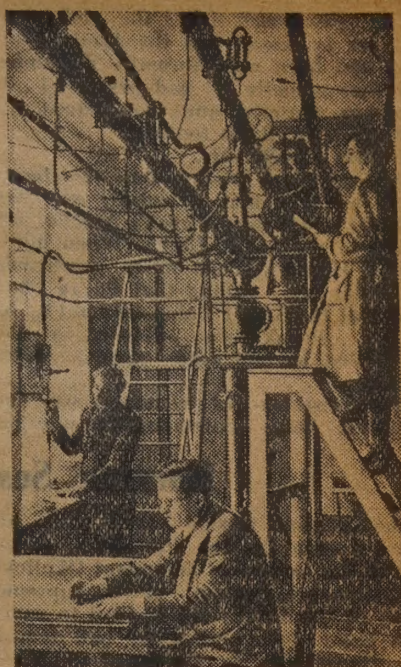
Great was my amazement to find in the many Russian physical and chemical research institutions that I visited a large amount of fundamental scientific work. The work of the Colloid Electro-Chemical Institute led by Academician Frumkin particularly interested me: they investigate problems that lie in my field, but they go further and work on new lines. I mean in particular application of surface chemistry to electro-chemical phenomena.

In the Institute of Physical Problems led by Academician Kapitza I saw for the first time in my life liquid helium. Nobody can say whether it will serve practical purposes but it is of extreme use for the study of physical phenomena. The oxygen development of Kapitza is of the greatest importance for the whole world. A great many people in the United States were interested in the problem of using liquid oxygen in industry, in particular, for blast furnaces. However, with the old methods of liquifying oxygen it was found impractical.

If used in great quantities liquid oxygen will revolutionize technological processes not only in Russia but in the whole world.

Very fundamental work, which has already found some application, is being done in the Institute of Chemical Physics headed by Academician Semyonov on kinetics of combustion reactions and explosion. At the Physical Technical Institute led by Academician Joffe I was struck by the work on semi-conductors and photocells. I am glad to carry back to America a generous present: five of the very sensitive photocells developed by a laboratory in this institute.

I could go on for a long time enumerating interesting developments in Soviet chemistry. However, I want to share some of my general impressions. I have been given an opportunity of seeing a state farm and a collective farm. The big state farm was very impressive: it is a highly-efficient modern dairy farm using new effective methods and investigating several problems. The collective farm we saw was rather small—we had no time



POWER INSTITUTE. A scene in the laboratory of high pressure steam, where scientific workers are busy studying hydraulics

to visit a bigger one. However I was very interested in the organization of this farm where everything seemed to run very smoothly under the leadership of a fine peasant man, the chairman, who was very enthusiastic about his work.

The interests of both of our countries lie in the same direction and we might greatly help each other in our future development. I hope we stand at the beginning of an era of better understanding and cooperation. More scientific publications and mutual visits by scientists and engineers are of the utmost need. We are all indebted to the Academy of Sciences of the USSR for its initiative in organizing the first post-war international meeting of scientists.

★ ★ ★

Professor Jean Frederic Joliot Curie, Nobel Prize, General Director of the National Center of Scientific Research, College de France:

I was very glad to be again in Leningrad, which I visited first in 1933 and of which I am very fond. I am happy to greet in this city one of the most heroic representatives of the heroic defense of the great Soviet people.

We French know well what the German Wehrmacht was like: it was a terrible monster which seemed invincible. Only a people with a great will to victory and a great unity, only a country where science and labor worked together in the war effort, could have beaten that monster and played a decisive role in liberating mankind from the Nazi nightmare.

I was happy to see at this session a splendid demonstration of that respect and love of the Soviet people for scientists I have observed hitherto. The Soviet scientists have indeed earned this love by their devoted work in aid of the front, never ceasing, at the same time, their theoretical research.

It was especially pleasant for me to visit the Physical Technical Institute headed by Academician Joffe. This was the first Soviet scientific institute whose acquaintance I made in 1933 and which I revisited in 1936. I am glad to see that it has been able very rapidly to resume its work after the period of evacuation and has made considerable progress since my last visit.

This is one manifestation of the magnificent indomitable vitality of the Soviet people.

This institute is conducting many interesting researches. What especially interested me was the construction of the cyclotron. There is a cyclotron slightly smaller in diameter in my Paris laboratory.

I have the greatest admiration for the organization of scientific work in Soviet institutes where separate groups of researchers have definite problems to work on. With highly-skilled scientific workers this method guarantees also high quality work. One might say a great deal about the results of this work, but I believe the best of them is the victory over Nazi Germany, in which Soviet science played such an important role.

Among many other pleasant impressions I have gained in the Soviet Union, where one feels so happy after the dark years of German oppression through which we have lived, I wish to mention one particularly: the great role played by the Soviet woman in the life of the country, her remarkable energy, her strength and vitality. She is truly the equal of man not in words but in deeds and gives the state no less than she takes from it.

We French scientists hope that we shall be able to work in the new France with the same enthusiasm as the scientists of the Soviet land.

Scientists Visit Leningrad Institutions; Are Impressed By City's Heroic Resistance

From Moscow News Staff Correspondent

LENINGRAD (by telephone)—On the trip from Moscow to this city, where part of the 220th anniversary meeting of the Academy of Sciences of the USSR is being held, the delegates had occasion to witness the interest this first post-war international gathering of scientists has aroused among the Soviet people at large.

At the station of Lyuban, the first within the limits of Leningrad Region, the train was met by representatives of the local authorities and numerous townsfolk and collective farmers bearing flowers.

"It was a stirring experience," Professor Charles E. Kellogg, Chief, Division of Soils Survey, U.S. Department of Agriculture, told me. "An elderly peasant who learned from the interpreter that I am an American handed me a bouquet of flowers. Then a man in uniform with his right arm in a sling came up, took out of his pocket an ash tray made from a German shell case and said, 'Take this as a souvenir and know that we will never forget the American tanks which helped us defeat the Germans.'"

DEFENSE OF LENINGRAD

Of the numerous excursions on the Leningrad itinerary the scientists wanted first and foremost to visit the Defense of Leningrad Exhibition. Never have I seen people so moved by museum displays.

"We in London lived through a great deal but we never saw anything like this," Professor R. H. Tawney of London University told me as he stopped before a display of photographs of shell-smashed buildings, ice-coated streetcars stalled on the tracks and people hauling corpses on sleighs.

Professor Eric Ashby of Australia and Dr. Julian Huxley spent a long time at the exhibits on Leningrad rations during the siege. They jotted down the daily bread ration in November and December 1941—125 grams.

"This is the most impressive and the most stirring exhibit I have ever seen in my life," Professor Meghnad Saha of Calcutta told me as we walked out of the large hall where German siege guns that killed Leningrad women and children on the streets were displayed.

Professor Ludwig Hirsfeld, the well-known Polish scientist, said:

"What I particularly marvel at is that you have just completed this remarkable page in your history and yet have found the strength to record it in this splendid exhibition. You are making history and writing it almost simultaneously. This exhibition is a testimonial to your strength, to your invincible vitality."

EXTENSIVE PROGRAM

The other days of our sojourn in Leningrad were devoted to science. Here, as in Moscow, the Academy's numerous research institutions demonstrated their achievements to their colleagues from various parts of the Soviet Union and abroad. The guests visited the Physical Technical Institute and the Institute of Botany, the Pavlov Institute of Physiology, museums of zoology, anthropology and ethnography, and the library of the Academy of Sciences with its 5,500,000 volumes.

At the meeting in the Institute of Botany, at which Academy President V. Komarov was present, Oskar Eric Gunnar Hulten, director of the Stockholm Botanical Museum and well-known authority on Arctic flora, read a paper on Alaska and the Yukon. Dr. Boleslaw Hryniewiecki, director of the Botanical Gardens of Warsaw University, spoke about the work of Polish botanists and the heavy losses they suffered at the hands of the Germans.

A large number of excursionists—three buses and ten passenger cars were barely enough to accommodate all who had signed up—visited the Physical Technical Institute headed by the well-known physicist Academician A. Joffe. Irene and Jean Frederic Joliot Curie were especially interested in the cyclotron, construction of which was interrupted by the war. Today work in the cyclotron laboratory is in full swing again.

One of the most pleasant and instructive excursions during the four days' stay in Leningrad was to the Pavlov Institute of Evolutional Physiology and Pathology of the Academy of Medical Sciences. Pavlov himself lived and worked there and his study and personal belongings are preserved with great care. The institute's buildings are situated in lovely woods about twenty miles from Leningrad and form a unique 'scientific village' where manifold investigations connected with the study of conditioned reflexes are being conducted.

"I was very much interested and gratified to see that the impetus given to neurological research by the great Pavlov is a force living and actively developing in Soviet science," Professor E. D. Adrian, F.R.S., Cambridge, told me after visiting this institution. "Academician Leon Orbeli, who heads both Pavlov Institutes—in Leningrad and in this village—and leads the investigations of about 150 scientists, is trying to get at the bottom of the processes taking place in the mind and governing the body, and has gained some very remarkable results."

Scientific meetings where Soviet and foreign scientists delivered reports on their recent investigations were followed by trips to the outskirts of the city. Scientists inspected the ruins of the Nazi-wrecked towns of Peterhof, Pushkin and Pulkovo.

HONOR KOMAROV

"A review of the international solidarity of scientists" is how Dr. H. Selye of Montreal, Canada, described the plenary sitting of the anniversary meeting held in Leningrad. Greetings were delivered by men of science from all four corners of the globe—from Armenia, Uzbekistan, Azerbaijan and other Soviet republics, from the United States, Great Britain, Iran, Bulgaria, Rumania, Yugoslavia and elsewhere. The Linnean Society commissioned its representative to inform Academy President Komarov that on June 8 it had elected him an honorary foreign member.

Greeting the Academy on behalf of the National Academy of Sciences of the United States and the National Research Council, Dr. Detlev Wolfe Bronk, of the University of Pennsylvania, said:

"The Academy of Sciences of the Union of Soviet Socialist Republics with its heritage of great scientific achievement is an inspiration to all learned bodies of like interest. The generous support of science by your Government under the leadership of Stalin, which has made possible these achievements, has been an example welcomed by the scientists of our country."

"The National Academy of Sciences and the National Research Council were founded to provide scientific aid to our armed forces during two successive wars against the United States of America. Because of these origins we have taken an especial interest and pride in the magnificent role your Academy has played in the achievement of the immortal military victories won by your country during these past four years."

"Your objective of enriching through science the lives of all men—regardless of race or privilege or position—is our objective and so, we look forward to long years of fruitful cooperation."

The necessity for such collaboration, the importance of this first post-war international congress of scientists, the achievements of Russian culture and gratitude to the Red Army were noted in the greetings delivered by the guests. Professor Gusti, President of the Rumanian Academy of Sciences, called the USSR Academy an example for new academies the world over, an academy of dynamic, creative science.

The Leningrad Soviet gave the delegates a grand send-off. It was a gala dinner in the sumptuous hall of the Uritsky (former Tavrchesky) Palace.



FOREIGN GUESTS ATTENDING JUBILEE SESSION visited the Chemical Physics Institute of the USSR Academy of Sciences. From left to right: V. Vovodsky, senior scientific worker of the Institute; Professor E. N. da C. Andrada, of the Physics Department of London University; Professor T. Svedberg, Sweden; Professor Adam, of the Southampton Scientific Institute, and V. I. Goldstein, post-graduate student of the institute, in Academician N. N. Semyonov's laboratory

—Photo by N. Fedoseyeva

COURT PROCEEDINGS

In the Case of Organizers, Leaders and Participants of Polish Underground Of Poland, Lithuania and Western Districts of Belorussia

We publish here the concluding part of the summary of court proceedings. The indictment, speeches by the prosecutors, the sentence and the first part of the court proceedings were published in the three preceding issues of Moscow News.

Evening Session, June 19

The examination of the defendants continued at the evening session.

Defendant Czarnowski, chairman of the board of the Union of Democrats and member of the chief commission of the Rada Jednosci Narodowej, was the first to be called.

The Presiding Judge asked Czarnowski whether he confirmed the testimony he had given during the preliminary investigation.

"I do," replied Czarnowski.

Prosecutor: In what manner did you participate in the underground activities against the Red Army?

Czarnowski: I belonged to the Rada Jednosci Narodowej and to the NE organization.

Replying to questions put by the Prosecutor, defendant Czarnowski admitted that he took part in the illegal conference at which Okulicki reviewed the situation following the decisions of the Crimea Conference and spoke of the need to form an underground organization to conduct subversive activities directed against the Red Army. The question of forming a political center of this underground organization was discussed at the same meeting. Czarnowski gave his consent to participate in the underground organization.

Prosecutor: As a leader of the Rada Jednosci Narodowej you were aware of the order issued by the Soviet command concerning the surrender of arms?

Czarnowski: I was.

Prosecutor: Nevertheless the Rada was preserved and camouflaged and you were kept informed of all of its activities?

Czarnowski: Yes.

In the course of the examination Czarnowski admitted that the NE had advocated the use of terroristic methods against representatives of the Red Army and that he, as the leader of the Union of Democrats, had maintained contact with the members of this Union in the armed detachments of the Armia Krajowa operating in the rear of the Soviet forces.

"Are you aware," the Presiding Judge asked Czarnowski, "that Okulicki did not carry out the order of the Soviet command to hand over weapons and ammunition, that he did not disband the headquarters of the Armia Krajowa but, while declaring that the army had been disbanded, actually placed it on an illegal footing?"

The defendant replied in the affirmative.

Presiding Judge: Do you consider that your subversive activity harmed the common cause of the United Nations?

Czarnowski: In effect this was so.

Defendant Baginski, vice-president of the Rada Jednosci Narodowej and vice-chairman of the Stronnictwo Ludowe Party, was the next to be examined. Replying to questions put by the Presiding Judge and the Prosecutor, Baginski endeavored to minimize his responsibility for the subversive activities directed against the Red Army. Giving his testimony concerning the armed detachments of the Stronnictwo Ludowe, known as the Hlopski Battalions, which subsequently merged with the Armia Krajowa, Baginski claimed that the weapons in possession of the members of these detachments were their "personal weapons."

Prosecutor: Your detachments nevertheless possessed arms?

Baginski: Yes, they did. Some members of the detachments had weapons.

Prosecutor: How many men were there in these armed detachments?

Baginski: About 100,000 men.

Prosecutor: You say that some of them had weapons. Could you say approximately how many?

Baginski: About 10% I should say.

Prosecutor: Even if only 10% that makes 10,000 armed men. Did you, as vice-chairman of the Stronnictwo Ludowe Party, instruct these men to carry out the order of the Soviet command on the surrender of weapons?

Baginski: No, I did not. It never occurred to me.

Prosecutor: Then you sabotaged the order of the Soviet command?

Baginski: No. We did not issue any instructions not to surrender weapons.

Prosecutor: But neither did you give instructions to surrender them?

Baginski: We never thought of it.

Defendant Baginski claimed that he and his party did not trust the command of the Armia Krajowa. Further questioning, however, revealed that the Stronnictwo Ludowe cooperated with the Armia Krajowa and even sent their representative, one Kaminski, to maintain permanent contact with its command.

Defendant Merzwa, one of the leaders of the Stronnictwo Ludowe Party and member of its central committee, was the next to be questioned.

He admitted that he and Baginski had negotiated with General Okulicki concerning the formation of a political center for the underground organization.

"So you were informed of the hostile activities that were being carried on in the rear of the Red Army?" said the Prosecutor.

Defendant Merzwa admitted this and confirmed that he had known of General Okulicki's intention to create a new underground organization.

Prosecutor: Consequently you admit your guilt and responsibility insofar as you knew of the existence of an underground organization in the rear of the Red Army and that reports on the formation of this organization were made at meetings of the central committee of the Stronnictwo Ludowe Party?

Merzwa: Yes, I admit that.

Defendant Hacinski, former chairman of the Party of Labor, admitted that he knew that the Armia Krajowa had been formally disbanded and that actually its armed detachments continued to exist and operate in the rear of the Soviet troops. Asked under what circumstances he had informed Hacinski of the decision to preserve the armed detachments of the Armia Krajowa on an illegal basis, defendant Urbanski replied that this took place at a meeting of the leading center of the Party of Labor which Hacinski attended. Informing the meeting of Okulicki's report at a secret conference, Urbanski declared that the disbandment of the Armia Krajowa had been purely formal and that actually its headquarters had been preserved and weapons concealed. This evidence fully confirms that Hacinski was informed of the underground subversive activity in the rear of the Red Army. Hacinski admitted at the court session that he was aware of the existence of armed detachments of the Armia Krajowa after the army had been formally disbanded, and that he also knew about the preservation of secret radio stations which maintained contact with the Polish emigre "government" in London.

Defendant Kobylanski confirmed the testimony he had given during the preliminary investigation.

Prosecutor: During the investigation you admitted yourself guilty of supporting the policy of the underground "government"?

Kobylanski: I do not deny this, but up to the middle of December 1944 I did not conduct active work. Later I was put in charge of communications with our department subordinated to the Armia Krajowa. I began this work.

The court proceeded to the examination of defendant Stemler-Dombski.

Replying to questions put by the Prosecutor, Stemler-Dombski testified that he had served in the department of information of the main Delegatura Zonu in Warsaw, and from November 1944 was vice-director of the department. During this period Stemler-Dombski issued an illegal radio bulletin.

The next to be questioned was defendant Mihalowski.

Asked by the Prosecutor when he had learned that the Armia Krajowa had in reality not been disbanded and had concealed its weapons and ammunition, Mihalowski replied:

"I heard about the order issued by the commander of the AK and noticed that it made no mention of surrendering arms."

Mihalowski went on to admit that he had learned from Czarnowski of the formation of a new political center of the underground organization, and that this was a military organization set up for subversive activities against the Red Army.

Prosecutor: On what basis was the new underground organization formed?

Mihalowski: The political center of the organization was to consist of representatives of the underground parties.

Prosecutor: You refer to the underground parties that were conducting subversive, diversionist activities against the Red Army?

Mihalowski: Yes.

The Prosecutor asked the defendant a question regarding the nature of the propaganda conducted against the Red Army.

Mihalowski: There were authorized representatives in the various districts. A letter was sent to them giving an appraisal of the political situation and containing slanderous information about the Red Army.

Prosecutor: Why were these fabrications resorted to?

Mihalowski: This was one of the forms of our struggle against the Red Army.

The examination of defendant Styplowski revealed that when the Red Army entered Warsaw he was the political adviser to the presidium of the Stronnictwo Narodowe Party and continued in this capacity up to the middle of March 1945, continuing illegal work in the rear of the Red Army.

Puzak, general secretary of the PPS and president of the underground "parliament," Rada Jednosci Narodowej, was the last to be questioned. He testified that he had been informed of the activities of the underground "government" in principle but denied that he was aware of the subversive activities, diversion and terror in the rear of the Red Army. By questioning defendants Jankowski and Okulicki, however, the Prosecutor established that Puzak had been informed of subversive work in the Red Army rear.

The Prosecutor asked the defendant whether he knew that the Armia Krajowa had been only formally disbanded but that actually it had preserved its weapons, materiel and had placed its cadres on an illegal footing.

Puzak: I knew this.

At first Puzak tried to deny the charge made by defendant Urbanski, who had testified regarding Puzak's hostile attitude to the Soviet Union. When questioned, Urbanski once more confirmed his testimony, adding that Puzak had said that the Soviet Union was not to be trusted. Puzak then admitted to the court that he had made such a statement.

The questioning of defendants over, the Presiding Judge announced that another

Morning Session, June 20

The morning session began with an announcement by the Presiding Judge that at the request of defendant Okulicki the Military Collegium of the Supreme Court of the USSR had decided to summon three of the persons he had named as witnesses in the case and had given instructions accordingly. Notice had just been received to the effect that owing to meteorological conditions the said witnesses could not be brought to Moscow by plane either that day or the next.

The Prosecutor voiced the opinion that inasmuch as it was not certain that the witnesses summoned at the request of defendant Okulicki could be produced within the next few days, the prosecution did not see any necessity to delay the proceedings, the more so since in view of the clarity of the case the state prosecution had the day before waived the examination of 11 witnesses who had been included on the list of the indictment. The Prosecutor moved that the hearing be closed. The Court upheld the motion.

The Court further granted the petition of the Prosecutor that the case against Paidek, absent on account of illness, be heard separately.

The Prosecutor asked the Court to record the fact that, in addition to general information regarding the killing and wounding of Red Army servicemen by members of the Armia Krajowa, the evidence included numerous documents confirming each individual case of the killing or wounding of Soviet servicemen. These documents constituted affidavits drawn up by Soviet military and civil authorities, by medico-legal experts, the results of medico-legal investigations, etc. The Court certified that the documents mentioned by the Prosecutor were on file in Vol. 25 of the case.

The Presiding Judge announced that after the speeches of the prosecution and the defense, the defendants would have the final plea, and those who were conducting their own defense would have the right to speak in their own defense before making the final plea.

After an intermission Prosecutors Major General N. A. Afanasyev, of the Red Army Judicial Service, Chief Military Prosecutor of the Red Army, and R. A. Rudenko, State Counsellor of Justice of the 2nd Class, spoke. (See Moscow News of June 23, 1945.)

The Court then heard the speeches for the defense.

Defendant Okulicki, who had chosen to conduct his own defense, spoke first.

In his speech Okulicki said that the present trial dealt with condemning the activities of the Polish underground which had been directed against the Red Army, threatened the interests of the Soviet Union and the cause of the United Nations in the struggle against Germany. The Polish underground, however, has much to its credit in the struggle against Germany, the defendant averred. Admitting his moral and political responsibility for the subversive activities against the Red Army, Okulicki denied the charge that he organized terror and diversion against the Red Army. He maintained that, as the commander-in-chief of the Armia Krajowa, he had no connections whatsoever with the eastern districts where acts of terror and diversion on the part of the AK had taken place. In the western districts where he was in charge, Okulicki maintained, there had been no

11 witnesses remained to be examined.

Major General Afanasyev, of the Red Army Judicial Service, Prosecutor, stated that in view of the clarity of the case, the state prosecutors waived the examination of the remaining witnesses. The defense made a similar statement.

The Court ruled that the remaining 11 witnesses need not be called.

The Presiding Judge then announced that at the request of defendant Okulicki made the day before regarding the summoning of additional witnesses, the Court had decided that three of the witnesses named by defendant Okulicki should be summoned to the Court session. The court declined to summon the other witnesses inasmuch as two of them could not be found on the territory of the Soviet Union, and one was at the present time enroute to a distant camp. On this the session adjourned.

diversion or terrorist activities against the Red Army.

Okulicki admitted that the prosecution had shed bright light on the facts regarding the acts of terror by the Armia Krajowa and he said that they were "staggering facts revealing the actions of the Armia Krajowa in the most horrible light."

Okulicki maintained that the tension and many of the misunderstandings in the relations between Poland and the Soviet Union had their roots in past history, inasmuch as for many decades Poland had been under the yoke of tsarist Russia. "We did not know," said Okulicki, "how your national policy had changed, what changes there had been in the internal life of your country and in the organization of the state."

Taking exception to what the Prosecutor had said, Okulicki declared that if from the political standpoint the Warsaw uprising might be regarded as a gamble, from the standpoint of a soldier this evaluation was incorrect.

Okulicki acknowledged his guilt in not fulfilling the instructions of the Soviet command. He admitted that he was to blame for the Armia Krajowa not surrendering arms and ammunition and for issuing orders to conceal the arms and ammunition. He also pleaded guilty to the charge of issuing orders for the preservation of underground headquarters and radio stations through which illegal radio contact was maintained with London, of forming a new illegal organization, the NE, and conducting propaganda hostile to the Red Army and the Soviet Union.

"Mistrust of the Soviet Union was my biggest mistake," he said. "And this mistake determined my whole confidence in my own government."

Okulicki said that he was deeply convinced of the need for Polish-Soviet friendship and that only with the existence of such friendship and the independence of Poland would Poland be able to prosper.

The next to speak was Braude, defense lawyer for defendants Ben and Jasiukowicz, "ministers" of the underground "government."

"In acknowledging their guilt, Ben and Jasiukowicz objected to the charge that they intended to fight the USSR in a bloc with Germany," said Braude. "Both resolutely denied any supposition that they knew of concrete instances of diversion and subversive activities. Pleading guilty on all the other points of the indictment, Ben and Jasiukowicz took upon themselves the moral and political responsibility for the entire activity of the underground 'government.' At the same time during this trial they have condemned their past activities, the activity of their underground 'government' and the London emigre 'government,' by which virtually they were led. Both Ben and Jasiukowicz have given evidence proving that they do not and will not share the views held by General Okulicki."

"Both defendants declared that they sincerely repent, that they were wrong and consider their past a political mistake as well as a mistake on the part of those who directed their activities from London."

Braude asked the Court to show leniency in passing sentence on these two defendants.

The morning session ended with Braude's speech.

Evening Session, June 20

At the evening session the Court continued to hear the speeches for the defense.

Lawyer Plevako, defending Stemler-Dombski, announced that he agreed with the Prosecutor, who had waived the charges against Stemler-Dombski.

Speaking in defense of Kobylanski, lawyer Milovidov said:

"The testimony and data of the preliminary investigation show that Kobylanski did not occupy any official position and had not yet taken part in the so-called underground 'parliament.' He was a candidate for membership in this 'parliament' in the event that one of the others should fall out." The lawyer asked that defendant Kobylanski be acquitted.

Speaking of Czarnowski, his other client, Milovidov asked the Court to consider the fact that Czarnowski had pleaded guilty to the charges brought against him. He had declared in court that he

now fully realized that he had acted not only criminally and wrongly but that such actions harmed the cause of the United Nations and Poland.

The lawyer asked for leniency for defendant Czarnowski.

Lawyer Markevich, defending Baginski and Merzwa, pointed out that inasmuch as Merzwa had not participated in any terrorist activities against the Red Army, the charges against him should be waived.

Speaking of Baginski, vice-president of the Rada Jednosci Narodowej, the lawyer reminded the Court of what the Prosecutor had said about this being an "important-sounding title but one of little consequence," and asked for utmost leniency for defendant Baginski.

Lawyer Mikhalsky, defending Urbanski and Mihalowski, said that he fully shared the view of the State Prosecutor, who had asked the Military Collegium,

Foreign Guests Pay Tribute To Soviet Science

We publish here statements made to Moscow News by three of the delegates from abroad in the 220th anniversary meeting of the Academy of Sciences of the USSR.

Sir Harold Spencer Jones, F.R.S., The Astronomer Royal, Royal Observatory, Greenwich:

Astronomy is a science which pre-eminently depends on international co-operation: it is impossible to see the whole of the sky in one country. Cooperation is greatly facilitated by personal contacts, which provide opportunity for discussion. One could accomplish more in an hour's discussion than in a month's letter writing.

I was glad to establish and renew personal contacts with many outstanding Soviet astronomers. A number of them I have known only by their work. Such are Academician Shajn, Director of the Simeiz Observatory, Associate of the Royal Astronomical Society, Professor Neuymin, Director of Pulkovo, and many other prominent Soviet scientists of the older and newer generations, as for instance, Corresponding Member of the Academy Ambarzumian. Their work in different fields of astronomy has played a big part in its development.

I was glad to meet Professor Ogorodnikov, whom I met for the first time in the United States in 1931. I was proud for science to see his photograph in Red Army uniform at the Defense of Leningrad Exhibition as one of the defenders of this glorious city.

I was distressed to witness the destruction of Pulkovo Observatory and learned with joy that instruments for measuring the positions of stars had been evacuated. I heard with great interest of plans for rebuilding this observatory on an even larger scale and for building new observatories with powerful telescopes in the South of the Soviet Union.

I hope that the Soviet Union will take part in the work of the International Astronomical Union, which before the war was conducted through many branches.

I was very much interested to find how many of the young Russian scientists speak English with considerable fluency. On returning home I will insist on our scientists learning Russian to be able to read your very valuable astronomical publications.

★ ★ ★
Dr. Irving Langmuir, Nobel Prize, Associate Director of Research Laboratory, General Electric Company:

I am struck by the hospitality and friendliness of Russia and the amount of fundamental, long-range scientific work formed even in wartime.

We in America have done much less than that kind of research in wartime. When we realized that the necessity for the raising of sending our army abroad cost all our scientists stopped doing research work unconnected with problems. After Pearl Harbor we were in the war and had so much to do equip our army. Big laboratories were organized for defense work and they are the most active centers of research in our country.

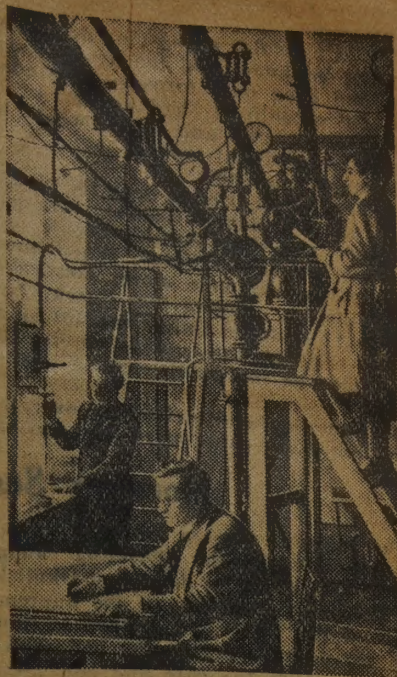
It was my amazement to find in many Russian physical and chemical research institutions that I visited a large amount of fundamental scientific work. The work of the Colloid Electro-Chemical Institute led by Academician Frumkin particularly interested me: they investigate problems that lie in my field. They go further and work on new problems. I mean in particular application of surface chemistry to electro-chemical phenomena.

In the Institute of Physical Problems by Academician Kapitza I saw for the first time in my life liquid helium. Nobody can say whether it will serve practical purposes but it is of extreme importance for the study of physical phenomena. The oxygen development of Kapitza is of the greatest importance for the whole world. A great many people in the United States were interested in the problem of using liquid oxygen in industry, in particular, for blast furnaces. However, with the old methods of liquifying oxygen it was found impractical.

If used in great quantities liquid oxygen will revolutionize technological processes not only in Russia but in the whole world.

Very fundamental work, which has already found some application, is being done in the Institute of Chemical Physics headed by Academician Semyonov on kinetics of combustion reactions and explosion. At the Physical Technical Institute led by Academician Joffe I was struck by the work on semi-conductors and photocells. I am glad to carry back to America a generous present: five of the very sensitive photocells developed by a laboratory in this institute.

I could go on for a long time enumerating interesting developments in Soviet chemistry. However, I want to share some of my general impressions. I have been given an opportunity of seeing a state farm and a collective farm. The big state farm was very impressive: it is a highly efficient modern dairy farm using new methods and investigating new methods. The collective farm we had no time



POWER INSTITUTE. A scene in the laboratory of high pressure steam, where scientific workers are busy studying hydraulics

to visit a bigger one. However I was very interested in the organization of this farm where everything seemed to run very smoothly under the leadership of a fine peasant man, the chairman, who was very enthusiastic about his work.

The interests of both of our countries lie in the same direction and we might greatly help each other in our future development. I hope we stand at the beginning of an era of better understanding and cooperation. More scientific publications and mutual visits by scientists and engineers are of the utmost need. We are all indebted to the Academy of Sciences of the USSR for its initiative in organizing the first post-war international meeting of scientists.

★ ★ ★
Professor Jean Frederic Joliot Curie, Nobel Prize, General Director of the National Center of Scientific Research, College de France:

I was very glad to be again in Leningrad, which I visited first in 1933 and of which I am very fond. I am happy to greet in this city one of the most heroic representatives of the heroic defense of the great Soviet people.

We French know well what the German Wehrmacht was like: it was a terrible monster which seemed invincible. Only a people with a great will to victory and a great unity, only a country where science and labor worked together in the war effort, could have beaten that monster and played a decisive role in liberating mankind from the Nazi nightmare.

I was happy to see at this session a splendid demonstration of that respect and love of the Soviet people for scientists I have observed hitherto. The Soviet scientists have indeed earned this love by their devoted work in aid of the front, never ceasing, at the same time, their theoretical research.

It was especially pleasant for me to visit the Physical Technical Institute headed by Academician Joffe. This was the first Soviet scientific institute whose acquaintance I made in 1933 and which I revisited in 1936. I am glad to see that it has been able very rapidly to resume its work after the period of evacuation and has made considerable progress since my last visit.

This is one manifestation of the magnificent indomitable vitality of the Soviet people.

This institute is conducting many interesting researches. What especially interested me was the construction of the cyclotron. There is a cyclotron slightly smaller in diameter in my Paris laboratory.

I have the greatest admiration for the organization of scientific work in Soviet institutes where separate groups of researchers have definite problems to work on. With highly-skilled scientific workers this method guarantees also high quality work. One might say a great deal about the results of this work, but I believe the best of them is the victory over Nazi Germany, in which Soviet science played such an important role.

Among many other pleasant impressions I have gained in the Soviet Union, where one feels so happy after the dark years of German oppression through which we have lived, I wish to mention one particularly: the great role played by the Soviet woman in the life of the country, her remarkable energy, her strength and vitality. She is truly the equal of man not in words but in deeds and gives the state no less than she takes from it.

We French scientists hope that we shall be able to work in the new France with the same enthusiasm as the scientists of the Soviet land.

Scientists Visit Leningrad Institutions; Are Impressed By City's Heroic Resistance

From Moscow News Staff Correspondent

LENINGRAD (by telephone)—On the trip from Moscow to this city, where part of the 220th anniversary meeting of the Academy of Sciences of the USSR is being held, the delegates had occasion to witness the interest this first post-war international gathering of scientists has aroused among the Soviet people at large.

At the station of Lyuban, the first within the limits of Leningrad Region, the train was met by representatives of the local authorities and numerous townsfolk and collective farmers bearing flowers.

"It was a stirring experience," Professor Charles E. Kellogg, Chief, Division of Soils Survey, U.S. Department of Agriculture, told me. "An elderly peasant who learned from the interpreter that I am an American handed me a bouquet of flowers. Then a man in uniform with his right arm in a sling came up, took out of his pocket an ash tray made from a German shell case and said, 'Take this as a souvenir and know that we will never forget the American tanks which helped us defeat the Germans.'"

DEFENSE OF LENINGRAD

Of the numerous excursions on the Leningrad itinerary the scientists wanted first and foremost to visit the Defense of Leningrad Exhibition. Never have I seen people so moved by museum displays.

"We in London lived through a great deal but we never saw anything like this," Professor R. H. Tawney of London University told me as he stopped before a display of photographs of shell-smashed buildings, ice-coated streetcars stalled on the tracks and people hauling corpses on sleighs.

Professor Eric Ashby of Australia and Dr. Julian Huxley spent a long time at the exhibits on Leningrad rations during the siege. They jotted down the daily bread ration in November and December 1941—125 grams.

"This is the most impressive and the most stirring exhibit I have ever seen in my life," Professor Meghnad Saha of Calcutta told me as we walked out of the large hall where German siege guns that killed Leningrad women and children on the streets were displayed.

Professor Ludwig Hirsfeld, the well-known Polish physicist, said:

"What I particularly marvel at is that you have just completed this remarkable page in your history and yet have found the strength to record it in this splendid exhibition. You are making history and writing it almost simultaneously. This exhibition is a testimonial to your strength, to your invincible vitality."

EXTENSIVE PROGRAM

The other days of our sojourn in Leningrad were devoted to science. Here, as in Moscow, the Academy's numerous research institutions demonstrated their achievements to their colleagues from various parts of the Soviet Union and abroad. The guests visited the Physical Technical Institute and the Institute of Botany, the Pavlov Institute of Physiology, museums of zoology, anthropology and ethnography, and the library of the Academy of Sciences with its 5,500,000 volumes.

At the meeting in the Institute of Botany, at which Academy President V. Komarov was present, Oskar Eric Gunnar Hulten, director of the Stockholm Botanical Museum and well-known authority on Arctic flora, read a paper on Alaska and the Yukon. Dr. Boleslaw Hryniewiecki, director of the Botanical Gardens of Warsaw University, spoke about the work of Polish botanists and the heavy losses they suffered at the hands of the Germans.

A large number of excursionists—three buses and ten passenger cars were barely enough to accommodate all who had signed up—visited the Physical Technical Institute headed by the well-known physicist Academician A. Joffe. Irene and Jean Frederic Joliot Curie were especially interested in the cyclotron, construction of which was interrupted by the war. Today work in the cyclotron laboratory is in full swing again.

One of the most pleasant and instructive excursions during the four days' stay in Leningrad was to the Pavlov Institute of Evolutional Physiology and Pathology of the Academy of Medical Sciences. Pavlov himself lived and worked there and his study and personal belongings are preserved with great care. The institute's buildings are situated in lovely woods about twenty miles from Leningrad and form a unique 'scientific village' where manifold investigations connected with the study of conditioned reflexes are being conducted.

"I was very much interested and gratified to see that the impetus given to neurological research by the great Pavlov is a force living and actively developing in Soviet science," Professor E. D. Adrian, F.R.S., Cambridge, told me after visiting this institution. "Academician Leon Orbeli, who heads both Pavlov Institutes—in Leningrad and in this village—and leads the investigations of about 150 scientists, is trying to get at the bottom of the processes taking place in the mind and governing the body, and has gained some very remarkable results."

Scientific meetings where Soviet and foreign scientists delivered reports on their recent investigations were followed by trips to the outskirts of the city. Scientists inspected the ruins of the Nazi-wrecked towns of Peterhof, Pushkin and Pulkovo.

HONOR KOMAROV

"A review of the international solidarity of scientists" is how Dr. H. Selye of Montreal, Canada, described the plenary sitting of the anniversary meeting held in Leningrad. Greetings were delivered by men of science from all four corners of the globe—from Armenia, Uzbekistan, Azerbaijan and other Soviet republics, from the United States, Great Britain, Iran, Bulgaria, Rumania, Yugoslavia and elsewhere. The Linnean Society commissioned its representative to inform Academy President Komarov that on June 8 it had elected him an honorary foreign member.

Greeting the Academy on behalf of the National Academy of Sciences of the United States and the National Research Council, Dr. Detlev Wolfe Bronk, of the University of Pennsylvania, said:

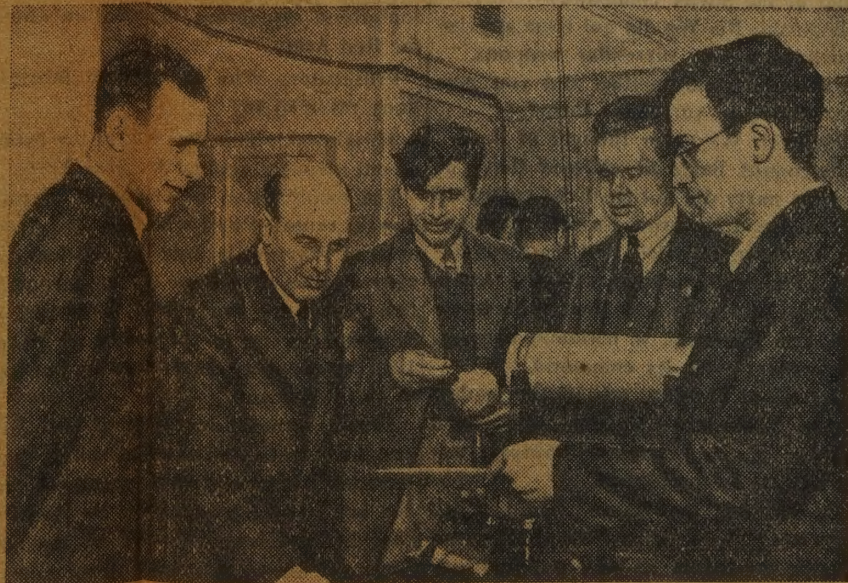
"The Academy of Sciences of the Union of Soviet Socialist Republics with its heritage of great scientific achievement is an inspiration to all learned bodies of like interest. The generous support of science by your Government under the leadership of Stalin, which has made possible these achievements, has been an example welcomed by the scientists of our country."

"The National Academy of Sciences and the National Research Council were founded to provide scientific aid to our armed forces during two successive wars against the United States of America. Because of these origins we have taken an especial interest and pride in the magnificent role your Academy has played in the achievement of the immortal military victories won by your country during these past four years."

"Your objective of enriching through science the lives of all men—regardless of race or privilege or position—is our objective and so, we look forward to long years of fruitful cooperation."

The necessity for such collaboration, the importance of this first post-war international congress of scientists, the achievements of Russian culture and gratitude to the Red Army were noted in the greetings delivered by the guests. Professor Gusti, President of the Rumanian Academy of Sciences, called the USSR Academy an example for new academies the world over, an academy of dynamic, creative science.

The Leningrad Soviet gave the delegates a grand send-off. It was a gala dinner in the sumptuous hall of the Uritsky (former Tavrchesky) Palace.



FOREIGN GUESTS ATTENDING JUBILEE SESSION visited the Chemical Physics Institute of the USSR Academy of Sciences. From left to right: V. Voyerodsky, senior scientific worker of the institute; Professor E. N. da C. Andrada, of the Physics Department of London University; Professor T. Svedberg, Sweden; Professor Adam of the Southampton Scientific Institute, and V. L. Goldstein, post-graduate student of the institute, in Academician N. N. Semyonov's laboratory —Photo by N. Fedoseyeva

COURT PROCEEDINGS

In the Case of Organizers, Leaders and Participants of Polish Underground Of Poland, Lithuania and Western Districts of Belorussia

We publish here the concluding part of the summary of court proceedings. The indictment, speeches by the prosecutors, the sentence and the first part of the court proceedings were published in the three preceding issues of Moscow News.

Evening Session, June 19

The examination of the defendants continued at the evening session.

Defendant Czarnowski, chairman of the board of the Union of Democrats and member of the chief commission of the Rada Jednosci Narodowej, was the first to be called.

The Presiding Judge asked Czarnowski whether he confirmed the testimony he had given during the preliminary investigation.

"I do," replied Czarnowski.

Prosecutor: In what manner did you participate in the underground activities against the Red Army?

Czarnowski: I belonged to the Rada Jednosci Narodowej and to the NE organization.

Replying to questions put by the Prosecutor, defendant Czarnowski admitted that he took part in the illegal conference at which Okulicki reviewed the situation following the decisions of the Crimea Conference and spoke of the need to form an underground organization to conduct subversive activities directed against the Red Army. The question of forming a political center of this underground organization was discussed at the same meeting. Czarnowski gave his consent to participate in the underground organization.

Prosecutor: As a leader of the Rada Jednosci Narodowej you were aware of the order issued by the Soviet command concerning the surrender of arms?

Czarnowski: I was.

Prosecutor: Nevertheless the Rada was preserved and camouflaged and you were kept informed of all of its activities?

Czarnowski: Yes.

In the course of the examination Czarnowski admitted that the NE had advocated the use of terroristic methods against representatives of the Red Army and that he, as the leader of the Union of Democrats, had maintained contact with the members of this Union in the armed detachments of the Armia Krajowa operating in the rear of the Soviet forces.

"Are you aware," the Presiding Judge asked Czarnowski, "that Okulicki did not carry out the order of the Soviet command to hand over weapons and ammunition, that he did not disband the headquarters of the Armia Krajowa but, while declaring that the army had been disbanded, actually placed it on an illegal footing?"

The defendant replied in the affirmative.

Presiding Judge: Do you consider that your subversive activity harmed the common cause of the United Nations?

Czarnowski: In effect this was so.

Defendant Baginski, vice-president of the Rada Jednosci Narodowej and vice-chairman of the Stronnictwo Ludowe Party, was the next to be examined. Replying to questions put by the Presiding Judge and the Prosecutor, Baginski endeavored to minimize his responsibility for the subversive activities directed against the Red Army. Giving his testimony concerning the armed detachments of the Stronnictwo Ludowe, known as the Hlopski Battalions, which subsequently merged with the Armia Krajowa, Baginski claimed that the weapons in possession of the members of these detachments were their "personal weapons."

Prosecutor: Your detachments nevertheless possessed arms?

Baginski: Yes, they did. Some members of the detachments had weapons.

Prosecutor: How many men were there in these armed detachments?

Baginski: About 100,000 men.

Prosecutor: You say that some of them had weapons. Could you say approximately how many?

Baginski: About 10% I should say.

Prosecutor: Even if only 10% that makes 10,000 armed men. Did you, as vice-chairman of the Stronnictwo Ludowe Party, instruct these men to carry out the order of the Soviet command on the surrender of weapons?

Baginski: No, I did not. It never occurred to me.

Prosecutor: Then you sabotaged the order of the Soviet command?

Baginski: No. We did not issue any instructions not to surrender weapons.

Prosecutor: But neither did you give instructions to surrender them?

Baginski: We never thought of it...

Defendant Baginski claimed that he and his party did not trust the command of the Armia Krajowa. Further questioning, however, revealed that the Stronnictwo Ludowe cooperated with the Armia Krajowa and even sent their representative, one Kaminski, to maintain permanent contact with its command.

Defendant Merzwa, one of the leaders of the Stronnictwo Ludowe Party and member of its central committee, was the next to be questioned.

He admitted that he and Baginski had negotiated with General Okulicki concerning the formation of a political center for the underground organization.

"So you were informed of the hostile activities that were being carried on in the rear of the Red Army?" said the Prosecutor.

Defendant Merzwa admitted this and confirmed that he had known of General Okulicki's intention to create a new underground organization.

Prosecutor: Consequently you admit your guilt and responsibility insofar as you knew of the existence of an underground organization in the rear of the Red Army and that reports on the formation of this organization were made at meetings of the central committee of the Stronnictwo Ludowe Party?

Merzwa: Yes, I admit that.

Defendant Haciniski, former chairman of the Party of Labor, admitted that he knew that the Armia Krajowa had been formally disbanded and that actually its armed detachments continued to exist and operate in the rear of the Soviet troops. Asked under what circumstances he had informed Haciniski of the decision to preserve the armed detachments of the Armia Krajowa on an illegal basis, defendant Urbanski replied that this took place at a meeting of the leadership center of the Party of Labor which Haciniski attended. Informing the meeting of Okulicki's report at a secret conference, Urbanski declared that the disbandment of the Armia Krajowa had been purely formal and that actually its headquarters had been preserved and weapons concealed. This evidence fully confirms that Haciniski was informed of the underground subversive activity in the rear of the Red Army. Haciniski admitted at the court session that he was aware of the existence of armed detachments of the Armia Krajowa after the army had been formally disbanded, and that he also knew about the preservation of secret radio stations which maintained contact with the Polish emigre "government" in London.

Defendant Kobylanski confirmed the testimony he had given during the preliminary investigation.

Prosecutor: During the investigation you admitted yourself guilty of supporting the policy of the underground "government"?

Kobylanski: I do not deny this, but up to the middle of December 1944 I did not conduct active work. Later I was put in charge of communications with our department subordinate to the Armia Krajowa. I began this work.

The court proceeded to the examination of defendant Stemler-Dombski.

Replying to questions put by the Prosecutor, Stemler-Dombski testified that he had served in the department of information of the main Delegatura Zondy in Warsaw, and from November 1944 was vice-director of the department. During this period Stemler-Dombski issued an illegal radio bulletin.

The next to be questioned was defendant Mihalowski.

Asked by the Prosecutor when he had learned that the Armia Krajowa had in reality not been disbanded and had concealed its weapons and ammunition, Mihalowski replied:

"I heard about the order issued by the commander of the AK and noticed that it made no mention of surrendering arms."

Mihalowski went on to admit that he had learned from Czarnowski of the formation of a new political center of the underground organization, and that this was a military organization set up for subversive activities against the Red Army.

Prosecutor: On what basis was the new underground organization formed?

Mihalowski: The political center of the organization was to consist of representatives of the underground parties.

Prosecutor: You refer to the underground parties that were conducting subversive, diversionist activities against the Red Army?

Mihalowski: Yes.

The Prosecutor asked the defendant a question regarding the nature of the propaganda conducted against the Red Army.

Mihalowski: There were authorized representatives in the various districts. A letter was sent to them giving an appraisal of the political situation and containing slanderous information about the Red Army.

Prosecutor: Why were these fabrications resorted to?

Mihalowski: This was one of the forms of our struggle against the Red Army.

The examination of defendant Stypulowski revealed that when the Red Army entered Warsaw he was the political adviser to the presidium of the Stronnictwo Narodowe Party and continued in this capacity up to the middle of March 1945, continuing illegal work in the rear of the Red Army.

Puzak, general secretary of the PPS and president of the underground "parliament," Rada Jednosci Narodowej, was the last to be questioned. He testified that he had been informed of the activities of the underground "government" in principle but denied that he was aware of the subversive activities, diversion and terror in the rear of the Red Army. By questioning defendants Jankowski and Okulicki, however, the Prosecutor

established that Puzak had been informed of subversive work in the Red Army rear.

The Prosecutor asked the defendant whether he knew that the Armia Krajowa had been only formally disbanded but that actually it had preserved its weapons, materiel and had placed its cadres on an illegal footing.

Puzak: I knew this.

At first Puzak tried to deny the charge made by defendant Urbanski, who had testified regarding Puzak's hostile attitude to the Soviet Union. When questioned, Urbanski once more confirmed his testimony, adding that Puzak had said that the Soviet Union was not to be trusted. Puzak then admitted to the court that he had made such a statement.

The questioning of defendants over, the Presiding Judge announced that another

11 witnesses remained to be examined.

Major General Afanasyev, of the Red Army Judicial Service, Prosecutor, stated that in view of the clarity of the case, the state prosecutors waived the examination of the remaining witnesses. The defense made a similar statement.

The Court ruled that the remaining 11 witnesses need not be called.

The Presiding Judge then announced that at the request of defendant Okulicki made the day before regarding the summoning of additional witnesses, the Court had decided that three of the witnesses named by defendant Okulicki should be summoned to the Court session. The court declined to summon the other witnesses inasmuch as two of them could not be found on the territory of the Soviet Union, and one was at the present time enroute to a distant camp. On this the session adjourned.

Morning Session, June 20

The morning session began with an announcement by the Presiding Judge that at the request of defendant Okulicki the Military Collegium of the Supreme Court of the USSR had decided to summon three of the persons he had named as witnesses in the case and had given instructions accordingly. Notice had just been received to the effect that owing to meteorological conditions the said witnesses could not be brought to Moscow by plane either that day or the next.

The Prosecutor voiced the opinion that inasmuch as it was not certain that the witnesses summoned at the request of defendant Okulicki could be produced within the next few days, the prosecution did not see any necessity to delay the proceedings, the more so since in view of the clarity of the case the state prosecution had the day before waived the examination of 11 witnesses who had been included on the list of the indictment. The Prosecutor moved that the hearing be closed. The Court upheld the motion.

The Court further granted the petition of the Prosecutor that the case against Paidak, absent on account of illness, be heard separately.

The Prosecutor asked the Court to record the fact that, in addition to general information regarding the killing and wounding of Red Army servicemen by members of the Armia Krajowa, the evidence included numerous documents confirming each individual case of the killing or wounding of Soviet servicemen. These documents constituted affidavits drawn up by Soviet military and civil authorities, by medico-legal experts, the results of medico-legal investigations, etc. The Court certified that the documents mentioned by the Prosecutor were on file in Vol. 25 of the case.

The Presiding Judge announced that after the speeches of the prosecution and the defense, the defendants would have the final plea, and those who were conducting their own defense would have the right to speak in their own defense before making the final plea.

After an intermission Prosecutors Major General N. A. Afanasyev, of the Red Army Judicial Service, Chief Military Prosecutor of the Red Army, and R. A. Rudenko, State Counsellor of Justice of the 2nd Class, spoke. (See Moscow News of June 23, 1945.)

The Court then heard the speeches for the defense.

Defendant Okulicki, who had chosen to conduct his own defense, spoke first.

In his speech Okulicki said that the present trial dealt with condemning the activities of the Polish underground which had been directed against the Red Army, threatened the interests of the Soviet Union and the cause of the United Nations in the struggle against Germany. The Polish underground, however, has much to its credit in the struggle against Germany, the defendant averred. Admitting his moral and political responsibility for the subversive activities against the Red Army, Okulicki denied the charge that he organized terror and diversion against the Red Army. He maintained that, as the commander-in-chief of the Armia Krajowa, he had no connections whatsoever with the eastern districts where acts of terror and diversion on the part of the AK had taken place. In the western districts where he was in charge, Okulicki maintained, there had been no

diversion or terrorist activities against the Red Army.

Okulicki admitted that the prosecution had shed bright light on the facts regarding the acts of terror by the Armia Krajowa and he said that they were "staggering facts revealing the actions of the Armia Krajowa in the most horrible light."

Okulicki maintained that the tension and many of the misunderstandings in the relations between Poland and the Soviet Union had their roots in past history, inasmuch as for many decades Poland had been under the yoke of tsarist Russia. "We did not know," said Okulicki, "how your national policy had changed, what changes there had been in the internal life of your country and in the organization of the state."

Taking exception to what the Prosecutor had said, Okulicki declared that if from the political standpoint the Warsaw uprising might be regarded as a gamble, from the standpoint of a soldier this evaluation was incorrect.

Okulicki acknowledged his guilt in not fulfilling the instructions of the Soviet command. He admitted that he was to blame for the Armia Krajowa not surrendering arms and ammunition and for issuing orders to conceal the arms and ammunition. He also pleaded guilty to the charge of issuing orders for the preservation of underground headquarters and radio stations through which illegal radio contact was maintained with London, of forming a new illegal organization, the NE, and conducting propaganda hostile to the Red Army and the Soviet Union.

"Mistrust of the Soviet Union was my biggest mistake," he said. "And this mistake determined my whole confidence in my own government."

Okulicki said that he was deeply convinced of the need for Polish-Soviet friendship and that only with the existence of such friendship and the independence of Poland would Poland be able to prosper.

The next to speak was Braude, defense lawyer for defendants Ben and Jasiukowicz, "ministers" of the underground "government."

"In acknowledging their guilt, Ben and Jasiukowicz objected to the charge that they intended to fight the USSR in a bloc with Germany," said Braude. "Both resolutely denied any supposition that they knew of concrete instances of diversion and subversive activities. Pleading guilty on all the other points of the indictment, Ben and Jasiukowicz took upon themselves the moral and political responsibility for the entire activity of the underground 'government.' At the same time during this trial they have condemned their past activities, the activity of their underground 'government' and the London emigre 'government,' by which virtually they were led. Both Ben and Jasiukowicz have given evidence proving that they do not and will not share the views held by General Okulicki."

"Both defendants declared that they sincerely repent, that they were wrong and consider their past a political mistake as well as a mistake on the part of those who directed their activities from London."

Braude asked the Court to show leniency in passing sentence on these defendants.

The morning session ended with Braude's speech.

Evening Session, June 20

At the evening session the Court continued to hear the speeches for the defense.

Lawyer Plevako, defending Stemler-Dombski, announced that he agreed with the Prosecutor, who had waived the charges against Stemler-Dombski.

Speaking in defense of Kobylanski, lawyer Milovidov said:

"The testimony and data of the preliminary investigation show that Kobylanski did not occupy any official position and had not yet taken part in the so-called underground 'parliament.' He was a candidate for membership in this 'parliament' in the event that one of the others should fall out." The lawyer asked that defendant Kobylanski be acquitted.

Speaking of Czarnowski, his other client, Milovidov asked the Court to consider the fact that Czarnowski had pleaded guilty to the charges brought against him. He had declared in court that he

now fully realized that he had acted not only criminally and wrongly but that such actions harmed the cause of the United Nations and Poland.

The lawyer asked for leniency for defendant Czarnowski.

Lawyer Markevich, defending Baginski and Merzwa, pointed out that inasmuch as Merzwa had not participated in any terrorist activities against the Red Army, the charges against him should be waived.

Speaking of Baginski, vice-president of the Rada Jednosci Narodowej, the lawyer reminded the Court of what the Prosecutor had said about this being an "important-sounding title but one of little consequence," and asked for utmost leniency for defendant Baginski.

Lawyer Mikhalsky, defending Urbanski and Mihalowski, said that he fully shared the view of the State Prosecutor who had asked the Military Collegium

July 1

It rained almost all day, especially in the morning. I had intended to visit the laboratory of Tszitsin and see the perennial wheat, but the roads made this impossible. We spent about three hours in the museum of Russian art, which I enjoyed very much indeed. I liked particularly the paintings of Serov, somewhat like those of Renoir.

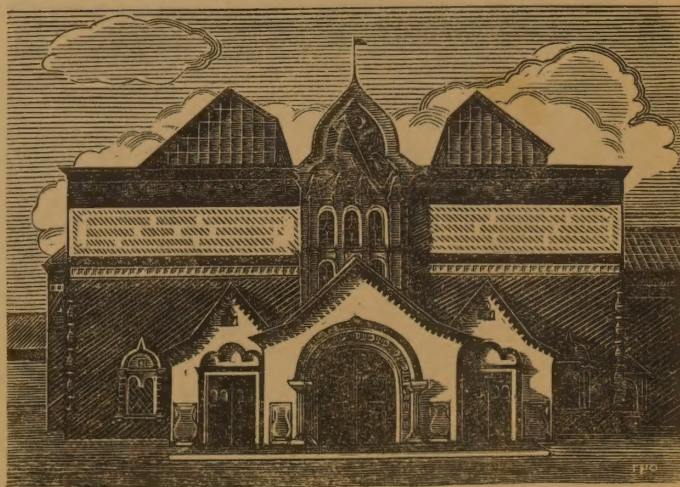
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В
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СССР

ДИРЕКЦИЯ
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ТРЕТЬЯКОВСКОЙ
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ЛАВРУШИНСКИЙ ПЕР. Д. 10

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La direction de la Galerie Trétiakov de l'Etat
vous invite à visiter pendant la session
anniversaire

de l'Académie des Sciences de l'U. R. S. S.
les collections de la Galerie
qui a rouvert ses portes après
son retour à Moscou.

La Galerie est ouverte: de 10 h. à 5h. de l'après midi;
adresse: 10, Lavrouchinski péréoulouk, Moscou

July 2

Up at 3:30 a.m. and left Moscow at 6:15 a.m. Several of our Russian friends saw us off — sadly I believe. I hope they liked us because we liked them and were very grateful.

Very soon after leaving Moscow the percentage of forest land increased rapidly to nearly 40 percent with less than 15 percent grain and fallow and the remainder in pasture, except near the main roads, where there was more cultivated land. Here many of the villages are strung out along the highways which are today, after many rains, nearly a sea of mud. After about half an hour we began to ride over heavy clouds and the ground was not visible.

About 500 miles east of Moscow the land was about 10 or 20 percent woods with most of the rest in grain or fallow. There seemed to be a lot of grain even though the collectives were small. Undoubtedly the soil is Gray-Brown Podzolic.

At about 700 miles the landscape is still the same. The upper clouds lifted and we passed over fleecy clouds beneath. The land is gently rolling and the pattern geometric but strongly modified by natural boundaries.

As we crossed the Volga we were flying very high. Here there was somewhat more forest and the fields were smaller. Perhaps 50 miles beyond the Volga the land became rolling to hilly and was mostly in forest, with only a few cultivated strips. As soon as we got over the Urals — and we flew over a very large industrial plant — there was a higher percentage of cleared land, say 25 percent.

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Lakes began to appear and I noticed one very large industrial plant on the shore of a lake just before we crossed into Asia.

We circled over Severdelovsky. There were many lakes and large industrial establishments to be seen. All around the town there were many victory gardens but not much other farming. This appears to be a very active industrial city. There are large areas of definite strip cutting and reproduction in the forests visible from the air. 100 miles or so further on we flew over a park-like area. The land was mostly in pasture but with substantial fields in fallow and grain. There were many nearly circular areas that seemed to be nearly barren with trees on the perimeter. The soil appeared to be nearly black, perhaps degraded Chernozem.

As we went on another 150 miles -- say 250 to 350 miles east of Severdelovsky -- the landscape seemed more open. Perhaps 15 percent is covered by scrub forest. There are many circular areas of wet lands and ponds. A large proportion are nearly perfect circles. Fields are scattered about irregularly. The soil is probably Chernozem. A little further on we saw what looked to be oil wells, or perhaps salt wells. The circular ponds and wet places continued with only scattered patches of cultivated land. The villages are far apart. At wide intervals there were some good looking roads through the area.

About 90 miles west of Omsk the fallow fields looked very black indeed. There were other fields that appeared to be in grain, including buckwheat (?). Just before reaching Omsk the land appeared

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to be a good deal better, perhaps about 50 to 60 percent arable. We arrived at Omsk at 2:15 p.m., and left at 3:07. The airport was all turf -- no concrete. The soil looked to be Chernozem -- a very dark silt loam.

Going east from Omsk we followed a valley that is a branch of the Irtysh River. The stream is fully mature. About 75 to 85 percent of the land is in fields and the remainder is scrubby forest. There are many rather large villages on the banks of the river. The soil is very black indeed. Some gullies have developed back from the river but these are completely stabilized. Here and there there were small strips, widely scattered, which suggested the old style method of land distribution and cultivation. We passed just north of a large lake, probably Chany. The landscape is about like that previously described except that there are somewhat less trees and more grassland. At this time the sky was practically cloudless.

Perhaps another 100 miles further the landscape looked more like a typical park with scrub forest and shrub, and a very green grass cover. Here there were fewer villages but many small industrial plants. Just before coming to Novosibirsk there were a few irregular lakes and ponds, but for many miles before, we had seen the circular ponds and playas. This city is located on a gentle plain, nearly treeless, with a good deal of farming and gardening near the City. The city is on the Ob River which is a well established, braided stream. Just east of the river there is a substantial forest area with many little gardens scattered around

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in it. We arrived at Novosibirsk at 5:30 p.m. Moscow time, or 9:30 Novosibirsk time.

I looked at a garden near the airport. The soil appears to be a well developed Chestnut, although some of that brought in for flower gardens looked as dark as Chernozem. Perhaps it had been brought in from a low river terrace. I saw quite a bit of white clover and red clover. Potatoes were being grown in the gardens.

In 1895 the population of Novosibirsk was 6, in 1930 it was 80,000, and now in 1945 it is 900,000. Originally it had been named Novonickolai. In 1930, 25,000 kilowatts of electric power were generated, and in 1945, 225,000, mostly from coal. They now have 11 scientific institutions and 7 theaters. There were none of either in 1930. We were greeted by the Commanding Officer at the post, and the Head of the City Soviet. Of course, they gave us the usual banquet. After the banquet we were driven around the town and shown several new factories, apartment houses, and public buildings, including the beautiful operahouse, which had just been completed a month previous.

We also stopped in the railroad station, which is very large on account of the connecting lines that go to the south. This is equipped with first-aid rooms and nurseries for mothers and children. We looked into some of the nurseries and there were a great many children asleep on cots.

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I was told that some hardy American fruits were being used --

I suspect buffalo berries, strawberries, etc., from the Great Plains. They are said to have a fine horticultural garden with many new fruits at Omsk. They were especially interested in apples that grow low on the ground since these can be covered with evergreen branches in the winter and protected from the cold.

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July 3

We left Novosibirsk at 6 a.m. on a bright sunny morning. We could see a great deal of grain and clumps of thinly scattered conifers. As we went northeast the percentage of forest increased. The land was a little more rolling, with comparatively short slopes. It was well occupied, and there were many villages, including several large ones, along the Ob and the larger tributaries. (I was told in Novosibirsk that the land was fully occupied south to the border and 200 or 300 kilometers to the north.)

As we went along, I saw quite a few sharply sloping short ridges and hills. There were a good many scattered trees, even some in the grain fields. At about 100 miles we were flying quite high over thin clouds and could scarcely see ground. At about 130 miles it became clear again just as we went over a large village with a big industrial plant. The soil is lighter in color but most of the land is cultivated, and there are many villages. At about 160 miles we passed over a city situated on a good-sized stream. Here there were many military establishments, new buildings, factories, airfields, and barracks. At about 170 miles we came into a large forested area, rolling and dissected, with only a few clearings. This is probably getting into the taiga. A little further on there were more clearings, but all the boundaries were natural ones.

At around 250 miles we flew very high, and it began to be cold in the plane. The landscape was treeless and 50 percent was

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cold in the plane. The landscape was treeless and 50 percent was

more or less used for crops. All the streams showed complete maturity. We seemed to be gradually working back to a taiga-steppe transition. This landscape was repeated for a good many miles. Some time previous to reaching the Yenesei River we went over an area that was mostly forest. The soil was brown in color. It was quite cold in the plane and the moisture on the inside of the window was freezing. Shortly we were back again in the transitional belt with 50 percent of the land cleared. There is mostly forest along the river. Beyond the river there was a sizeable area that was about 50 percent cropland and 50 percent forest, but somewhere in the neighborhood of Kansk we were back over practically solid forest. We came to a large braided stream, possibly the Angara, with farming along the islands and along the shore. The soil was dark brown. For some distance we were riding above a heavy cover of clouds that looked like the sea with icebergs floating about.

At about 150 miles west of Kirensk the land was quite wild, the streams were mature, and there were few signs of occupancy. The land was rolling to hilly with mountains visible far to the north, perhaps the Panage Mountains. Here and there along the streams forest areas have been cut and a new growth has followed. I saw one village near a large stream with a little farm land around it. As the Lena River came to view there was significant farming to be seen near the river. We landed at Kirensk at 12:40 p.m. (Kirensk time.)

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The airport is on a river terrace of rather dark-colored alluvial soil. We had lunch at the airport and were then driven out to the officers' quarters some distance away in a woods consisting of pine, birch, elder, Vaccinium, and similar plants. The high terraces in the pine woods were quite sandy and much of the soil was weakly podzolized loamy sand, like our Omega. I saw a fairly well developed profile in a road cut developed from loamy fine sand.

The solum was about 28 inches deep.

A₁ - 0-2" Dark gray loamy fine sand. (influenced by grass)

A₂ - 2-10" Yellowish gray loamy sand.

B₂ - Slight^{ly} reddish, brown brittle sandy loam.

C - Yellowish slightly compact loamy fine sand, faintly stratified.

In the woods there were several very large ant hills $2\frac{1}{2}$ feet high and 5 feet in diameter. Wild flowers were growing in profusion. There were red lilies, Siberian iris, thyme, lady slippers, and so on.

We spent the evening in the Russian officers' quarters. After a good supper I went to bed at 11 o'clock but was routed out at 11:20 and told to be ready to leave. Just after dressing I was advised that the plane would not leave until 5 a.m. after all, so again I went back to bed. I slept very well, and how I needed it!

304
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We spent the evening in the Russian officers' quarters. After a good supper I went to bed at 11 o'clock but was roused out at 11:30 and told to be ready to leave. Just after dressing I was advised that the plane would not leave until 5 a.m. after all, so again I went back to bed. I slept very well, and now I needed it!

July 4

We left Kirensk at 5:30 a.m. The high hills at the right had snow on the tops, although we had seen none the day before. For the first 150 miles clouds obscured the land. When we got a glimpse through the clouds we saw low mountains with snow in spots. Apparently the area is in the taiga-tundra transition. About 300 miles out there were low locally rugged mountains covered with forest, except for a few rocky peaks, crags, and cut banks along the streams. From the great height of the plane the trees appeared to be short and scrubby. As we went along the forest seemed to become thinner with bald spots on some of the hill tops. Patches of snow were scattered about here and there. We saw very few signs of human occupancy, even on the large rivers, except for here and there some clearings near the rivers that may be emergency landing strips. There were farms near these. As we crossed the Lena at the place where the Eatom (?) enters it, the forest seemed quite thin. Certainly we were in the taiga-tundra transition. The land is locally quite hilly.

We saw barges on the Lena. A little ways beyond there was a rolling plain with thin irregular forest. Even the small rivers showed advanced maturity.

We passed near Namana -- a considerable village -- with much cleared land along the terrace of the river. Beyond this there were several smaller villages. There were a good many small lakes and ponds on the river terrace. Here the uncleared forest was

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quite dense. We were following the Lena River from Namana to Yakutsk. We could see small clearings on the river terrace and small air strips. About 50 miles beyond Namana the forest was thin again. There were many spots nearly barren of trees and many small irregular ponds. We noticed some evidence of forest fires. Along some of the branches to the Lena were a great many bare cut banks, especially facing north.

About 150 miles west of Yakutsk the forest was thin but had a green undercover with many little ponds. A large part of the land is wet but one would not know this except for the reflection of the sun in the water surface. This is probably true tundra. About 100 miles away from Yakutsk the land was somewhat smoother but there was a fair proportion of wet land. I was amazed to see evidence of men building an air strip and a trail far from the river, and then a little further on a farm. Good heavens! Another 25 miles there was another farm!

We flew over Yakutsk which is quite a city. There is much cultivated land surrounding it and roads run out in all directions. The Lena has a broad valley here. The river is sprawling and braided. The Russians had a large air field which seemed to be well equipped to handle any sort of military emergency. Air fields and anti-aircraft guns seemed to be well camouflaged. We landed at Yakutsk at 10:15 a.m. Kirensk time, which is 11:15 Yakutsk time. It was very hot and dry the day we landed. The air field is on a dark brown silt loam alluvial soil. There are

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no metal strips or concrete, but only turf. After a banquet-lunch at the officers' headquarters I took a tour of the town and local countryside in a staff car furnished by the Russian Command. The day was very hot and dry.

I looked at a soil on the river terrace just above the overflow but still a very young soil: The surface A₁ horizon is a very dark gray fine sandy loam, high in humus. At about 15 inches the color begins to fade through a transitional horizon some 5 inches in thickness. At 20 inches is a G-C - grayish-yellow fine sandy loam. The soil is very mellow and friable throughout. The present vegetation is rather thin grass. In dry periods the soil is easily blown by the wind.

We stopped at a little farm, probably an individual farm, on a rather high segment of the same river terrace. Unfortunately I was unable to speak Yakutsk with the farmer or much Russian with my companions. Cucumbers, cabbages, salad crops, and tobacco, were being grown in raised beds. These were made of pine logs. They were about 2 feet high, 6 feet wide, and 30 feet long. They had been filled with mixed soil and compost. Both glass panes and cloth frames were available for covering the beds, depending upon weather conditions. Most of the plants were just in shape for transplanting and the farmer was engaged in transplanting some of them to the fields. In addition to these transplants, older cucumber plants were growing in smaller beds. Others were being grown in ordinary raised beds on the outside. The whole garden, including

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the beds, was surrounded on the north and west with tight wind breaks about 10 feet tall made of pine boughs.

On this higher terrace there seemed to be no evidence of tundra or ever-frozen subsoil; although in the city, which is situated on a rather low part of the terrace, there was a very difficult drainage problem. Several new deep drainage ditches were being dug. In the lower part of these the soil was bleached a bluish-gray that suggested permanent swamping. All evidence suggested that the city was really a sea of mud a good deal of the time.

We looked at the soil in another place near the farm that was somewhat poorly drained. In the woods there was a very dark brown surface, almost mull, about 3 inches thick. Underneath was a gray fine sandy loam containing much organic matter, some 2 or 3 inches thick over gray material which appeared to be limy. The forest consisted of pine, white birch, and elder. There were a good many wild roses.

In an adjoining potato field the gray material that appeared to be limy was encountered at about 6 inches, under a dark brown surface soil relatively high in organic matter.

We drove through the flat into the uplands. This required going up a long steep hill. I had expected we would get on to primary rocks, but we came to an upland flat underlain by very gravelly material.

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- A₀ - 0-2" forest mulch developed from pine needles mostly.
- A₁ - 0-1" dark gray sandy loam relatively high in humus.
- A₂ - 1-8" gray light sandy loam.
- B₂ (?) - 8-24" mottled gray and yellow sandy loam. Now very dry and brittle grading into
- C - 24"- coarse sandy and gravelly material, streaked with iron-yellow and gray.

In places the A₂ is nearly absent and B₂ is directly under A₁.

Nearby, the lower material was being excavated for use as gravel in building. In the gravel pit it could be seen that roots penetrated to 3 feet. There were irregular stains of yellow, brown, and gray in both vertical and horizontal streaks. Most of the gravel appeared to be from dark-colored crystalline rocks. This is probably an extremely old terrace remnant. This land is likely more nearly taiga than tundra. The vegetation consisted of small pines, white birch, and Vaccinium, etc. They were harvesting a low-growing Vaccinium — Arctostaphylos Uva-urisi — from which tannin would be extracted. (This plant is probably one commonly called bearberry, which bears edible berries.)

The flies were simply terrible. It was very hot and dry everywhere, and especially dusty on the lower terraces.

Yakutsk has a population of about 50,000. All of the houses are made of wood and most of them have heavy log walls. The eaves and the sills have characteristic carvings and designs. There is a difficult water supply problem. There is a large wooden derrick for a well in the central part of the city. A few homes

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have water into the house and there are a few local stations where water may be obtained. One sees a great many small tank wagons, pulled by Siberian ponies, hauling drinking water. Most streets are paved with round wooden blocks and are extremely rough. The city has both theaters and movies.

The schools for the local students are conducted in the Yakutsk language and Russian is also taught. Families of Russians located in Yakutsk may send their children to Russian schools, but they must learn Yakutsk. Here, as elsewhere, it is interesting to observe the great pains taken by the Soviet Government to preserve and strengthen the local culture. (But, of course, everyone that amounts to much or wants to amount to much in the Soviet Union must also learn Russian.)

The officers' quarters where we stayed were conveniently arranged. The walls were thick and made from pine logs. Each room had one or two huge porcelain stoves. When we first came and looked into the courtyard there was a little Siberian bear up a tree.

We left Yakutsk at 8:10 p.m. Yakutsk time. The cleared land does not extend far beyond the city. We saw several local forest fires from the plane and were soon flying in a haze of smoke. Within an hour the haze of smoke was so thick that one could barely see the ground. About 220 miles along we were passing over jagged mountains only partly covered with green. At this point we were near a large river, probably the Aldan, which flows into the Lena.

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There were a few snowbanks on the northern mountain slopes. (Only at this point did I get normally cool after an extremely hot day in Yakutsk.)

As we passed along there were high, jagged, mist-shrouded mountains to the right. This was the most dreary, and lonesome landscape that I had ever seen. It would have been perfect for Gustave Dore. We passed along the Verkhoyanski Range to the right. The peaks were covered with snow and looked quite beautiful.

About 350 miles out we passed over a large pond of beautiful blue ice.

As the young streams develop width they are highly braided and their valleys are crowded with ponds and mud flats. On the slopes, there were accumulations of snow that might be small glaciers.

There was some vegetation -- a very thin and scrubby forest. We passed over these rugged mountains to less rugged ones having a great many pocket lakes. A little less than 400 miles out I caught a glimpse of a road running along our route of travel. High snow covered peaks came into view to the northwest. The sky was still rosy in the west at 10:45 p.m., and the moon was trying to shine through the clouds. This was still part of the Verkhoyanski Range. Other high peaks were interlaced with thin, white clouds, and the valleys beneath were partly filled with clouds. The rosy sunset seemed simply to move around to bring the rosy dawn. Apparently "the moon was afraid of the sun."

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At 11 p.m., probably about 450 miles out, the air began to get extremely rough and we ran into a severe storm. The pilot turned the plane sharply to the left to avoid it. We passed over nearly barren low mountains with smoothly rounded tops, suggesting an old plane surface. Although the northern sky was quite light there was only a faint glimpse of rose on account of the clouds.

A few miles further on we passed over more rugged snow covered mountains, and at 11:30 passed over the ridge. The land beneath seemed bare and rugged with high peaks coming into view to the east. The shape of the rock formations suggests basalt or lava. Then we ran into another bad storm. Just before midnight, probably 600 to 700 miles out we got through the storm. The rosy sunrise looks from the plane like a sea of fire. One saw the hills beyond and the shore, and even ships at sea. To me this was unique and entirely gorgeous.

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July 5

A little after midnight it was obvious that we were going southeast, riding over a heavy cloud bank at about 10,000 feet. At 12:32 a.m. we came over a small town in a little valley beneath us. We circled several times and landed at Seimchan at 12:45. This is a little air station on a low terrace in the flood plain of the Kolyma River. Mosquitos were simply terrible: they made a conspicuous cloud around the head of each person. The plane was serviced and we took off at 1:20 a.m. In the town I saw several ^{green-} houses, cold frames, and small gardens. The town and air field seemed to be completely surrounded by wet swamp land and the river channel. (Of course, there was no darkness this night.)

As we left Seimchan there appeared to be more green ground cover. There were low, softly rounded mountains, with fairly wide, wet valleys.

About 190 miles out there were medium mountains slightly rounded, with rather scanty vegetation, except in favored places. The plane increased elevation, apparently to get over the Kolymski Khrebet (mountains) until we were flying at 12,000 feet. Again there were patches of snow beneath us.

All of the way from Yakutsk there was little upland soil, but mostly mountains and the alluvial flood plains.

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and there was some vegetation and quite a bit of snow. Just a few miles from Markova we began to see the ground through the haze and saw that we were following a river, probably the Anadyr. Here was a large area of little lakes and streams. About 25 to 30 percent of the surface was water. We came down at Markova at 4:56 a.m. Yakutsk time, or 7:56 Markova time.

This is another little town built on the low flood plain of the river. There seems to be nothing much besides the airport and other military installations. Here there were only a very few gardens and cold frames. Wild flowers were being transplanted along the roads and around the houses for decoration, especially, roses, that grow in profusion and are very pretty.

We had a good breakfast in the officers' mess and then had a few minutes to look around while the officers checked our passports before leaving the U.S.S.R.

The soil is an imperfectly drained fine sandy alluvium, which is still covered by occasional floods. It has a nearly uniform light-brown color to 6 feet. The surface has a weakly developed but definite A_1 and A_2 suggesting the Podzol. Of course, there are many swampy places with Half-Bog soils. Here and there in the parent material were streaks and bands of gravel. This was being excavated for construction material. There was a large percentage of dark-colored igneous rocks in the gravel.

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At 10:03 a.m. we left Markova. For a considerable distance we flew high and above a rather heavy cloud cover. Only now and then could we get a glimpse of the earth beneath. At one point I could see a large body of water extending off to the south, suggesting that we were going across Zalió Kresta. To the north there was rough rolling land with streaks of snow in the gullies and very little evidence of any vegetation. Back from the sea, the ponds were frozen. This barren hilly land extended to the north for at least 100 miles. The stream beds are not very wide but are beautifully braided. The whole aspect is one of a cold and exceedingly dreary landscape. In the far background are small cirques suggesting glacial action.

After we passed the water, the land beneath was mostly barren with smooth tops on the ridges. In places there was some sort of green vegetation on the rocky soil but I couldn't make out what it was.

As we came to the edge of the Bering Sea there was some floating thin ice near the shore.

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July 4 (We crossed the international date line and moved back one day.)

- As we crossed the Bering Strait the two Diomed Islands came into view far to the north. (It was somewhat unpleasant in the plane due to the cold and low oxygen content of the air.)

We flew over Alaska a little north of Nome. The coastal plain seems to be built as a delta from alluvial materials. There were many ponds in it and some green plants. It is probably tundra. Shortly, rugged mountains came into view with considerable snow on them, especially along the crests of the ridges and in the gullies. The mountains immediately near us are not very high, but we could see much higher ones to the north. There was a conspicuous road built between the coastal plain and the foot hills, with a branch up the river valley, west of Council. Over Council I noticed roads going east and some going north in the valleys. There was not much vegetation on the land. We were flying very high and it was cold and hard to breathe.

At the head of Norton Sound, along the north coast, there are trees and a few houses. As we went east the green color from vegetation increased until there was a considerable amount of forest on the mountain slopes.

(Extremely uncomfortable in the plane.) We ran into clouds, but these broke so that I had an excellent view of the "mighty" Yukon River, including its junction with the Koyukuk. The river occupies a huge swampy flood plain. There are thousands and thousands of oxbow lakes and ponds. I noticed a great interior

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plain with some patches of thin forest and many, many small ponds.

We passed over an airport on the north side of the Yukon. Here the river has a very wide swampy first bottom. Fifteen minutes later we passed near a village on the south bank of the river near its junction with a small river flowing in from the north. It would seem that there would be pasture and browse along the Yukon, but the whole flood plain is a mass of meanders and oxbow lakes. The river was quite muddy, and so was the Tanana which came into view just as I got a faint glimpse of Mt. McKinley, far to the right. Beyond this junction the land was quite hilly, and the hills had rounded tops. There was a great deal of forest and there appeared to be considerable pasture land.

We passed over the gold dredging near Fairbanks, saw the College and the Experiment Station, and were down at the Fairbanks airport at 5:30 p.m. Markova time, or 8:30 Fairbanks time.

We said goodbye to our excellent Russian flying crew and were taken to the officers' headquarters. Never was I more tired.

Whether or not our two Russian pilots - from Tehran to Moscow and from Moscow to Fairbanks -- had special instructions, I don't know. Certainly both were very skillful and courteous. Both were men a little older than most pilots.

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We passed over an airport on the north side of the Yukon.

Here the river has a very wide swampy first bottom. Fifteen minutes

later we passed near a village on the south bank of the river near

the junction with a small river flowing in from the north. It

would seem that there would be pasture and browse along the Yukon,

but the whole flood plain is a mass of meanders and oxbow lakes.

The river was quite muddy, and so was the Tanana which came into

view just as I got a faint glimpse of Mt. McKinley, far to the

right. Beyond this junction the land was quite hilly, and the hills

had rounded tops. There was a great deal of forest and there appeared

to be considerable pasture land.

We passed over the gold dredging near Fairbanks, saw the

College and the Experiment Station, and were down at the Fairbanks

airport at 5:30 p.m. Baranov time, or 8:30 Fairbanks time.

We said goodbye to our excellent Russian flying crew and

were taken to the officers' headquarters. Never was I more tired.

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July 5 (New York Date)

I was up early and a staff car was made available at 8 a.m. First we got arrangements straightened out for leaving in the afternoon, then I drove out into the country. The airport and the city are built on imperfectly drained alluvial terraces. Under virgin conditions most of this soil consists of a layer of peat over grayish-yellow, mottled, very fine sandy loam. In some places this is deeply underlain by gravel — probably in most places. The native vegetation consisted of spruce, Labrador tea, etc. (I took a sample of the organic layer.)

I visited the University and had a considerable conference with the President - C. E. Bunnell — along with Drs. Shapley and Heiman from our party. He gave us a most discouraging story of difficulties because, he says, of the determined resistance of the mining and fishing interests to any sort of tax program and to the development of any additional industries, including agriculture. Many influential people have apparently established very lucrative businesses that import food from the States at high prices. They also resist the development of agriculture or of scientific research in agriculture. I never talked with a more discouraged and frustrated public official. He said that the Army took over many of their public facilities and several officers tried to take over the whole University. Then the Army left as suddenly as it came, thus creating an extremely difficult problem for the University with its limited funds. They were very short of laboratory space,

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There were two dairy farms in the community, which I saw; one of these looked very nice indeed. Then the College has ~~has~~ a considerable dairy herd. Normally this milk at the College is used for boarding students. The President told^{me} that shortly after the dairy farms got going in good shape, the Army brought in a mechanical cow and ceased buying milk locally. This, of course about wrecked the little dairy industry before it got started. He implied this was intentional.

Located at the University is a very elaborate scientific setup for studying the ionosphere. I was told there was one like it in Peru and another in Australia. It was said to be of great significance to long-range weather forecasting, the study of radio waves, and the study of cosmic rays. The University has an excellent collection of ancient and modern Eskimo material.

I drove out to the Experiment Station with the Director. The plots are on rolling land lying above the river terrace. The soil appears to be youthful, and I would judge it to be Brown Forest, developed from very fine sandy loess. There is about 2 inches of dark brown mull. The next 8 inches is a brown very fine sandy loam. Below 10 inches this becomes lighter in color and is mottled with gray. Throughout the soil has a very soft crumb structure. I dug holes under the spruce sphagnum for about $2\frac{1}{2}$ to 3 feet. The soil material at this depth was very cold, but not frozen. I understand that it is frozen in more protected

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places. The native vegetation was mainly spruce, poplar, and Vaccinium. Interestingly, there was no evidence of a Podzol.

This soil is understandably quite erosive when kept in clean cultivation. The slopes are relatively short, but often quite steep. Because of the soft crumb structure I should expect very serious erosion when the lower soil is frozen.

I saw good barley, oats, and Siberian wheat growing on the station farm on this soil. They had had plenty of moisture and the season was said to be very good. Some of the barley was just coming into head. There were also satisfactory plantings of small fruits, including raspberries and strawberries. Cultivated blueberries had not been developed.

I dug into a Half-Bog soil in the alluvial plain. The surface had about 4 to 6 inches of fairly well-decomposed nearly black well-decomposed peat or muck. This was underlain by gray, stratified fine sandy loam. There was no evidence of frozen subsoil, although it was said to be frozen in well protected places. With surface drainage provided, this soil is said to be good for cereal grains, but needs nitrogen and phosphatic fertilizers.

I drove about in an area of extensive gold mining. They were using strip mining and hydraulic methods. They left the land in a perfectly frightful condition even though they removed some 22 million dollars per year.

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Tatana river. This is another braided stream with wide swamps. Shortly after leaving we ran into a hard rain. About 270 miles northwest of Whitehorse we passed over a valley of rolling hills and swamp bottomlands with many ponds. The mountain foot slopes on either side were fairly well forested. The pilot pointed out several down planes in the forest and told me about the death and hardships that were involved. Across the White River near the Canadian border we came over an undulating rolling plain. This is probably tundra-taiga. It is about one-half forested and there are many pools. The White River is a typical braided stream. We passed by Wellesley Lake, then flew along the Donjek River. This has narrower swamps than most, and there is some trenching of the main stream, although it is mature. The land beyond is hilly.

About 5 o'clock we ran into a very heavy rain at 10,000 feet and for a few minutes the ride was quite rough. There were snow-capped mountains far to the southwest. We then flew over a hilly dissected upland with a thin forest.

Perhaps around 100 to 130 miles northwest of Whitehorse the land appeared much drier. It was strongly rolling, but there was not much forest cover, and even some bare ground. Nevertheless there were many small lakes and ponds. Snow-capped mountains could be seen far to the southwest. We flew near Lebarge Lake on which there were two Indian villages. We saw river barges on their way to Fairbanks.

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Near Whitehorse the forest was considerably denser. We came down at Whitehorse at 5:55 p.m., or 6:55 Whitehorse time. We waited only for the plane to be serviced and left at 7:32 p.m. The country has fairly heavy forest and the mountains to the right were snow-capped.

About fifteen minutes out we flew over very rugged nearly barren country, with snow on the ridge crests and in a few gullies. There were high mountains far to the south and rocky peaks to the north. About 150 miles out we were going over rugged mountains with very sharp ridges, much steeper on the north side. There was quite a bit of snow on the mountains and forest on the foot slopes. There were many beautiful cirques and hanging valleys.

Beyond, in the lower-lying valley, the land was hilly and covered with forest. A few minutes before crossing the Liard River the land was heavily forested and there were numerous small lakes and playas. Again the land looked like taiga-tundra transition with many ponds and braided streams. The fliers have named one of these valleys Million Dollar Valley because three B-29s went down there in a storm. The fliers were rescued and a few of the instruments taken out, but the planes could not be removed from this wild terrain. The Liard River has here a deep gorge with high cut banks. We landed at Fort Nelson at about 10:20 p.m. or 11:20 local time. After the plane was serviced we left again at 11:47 p. m., in darkness.

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July 6

We arrived at Edmonton at 4:05 a.m., local time and left at 6:05 a.m. While we were there waiting for the plane to be serviced it became light.

After leaving we were immediately in a good farming area. The soil is apparently Chernozem. After a little ways I noticed there were many old low dunes and quite a few ponds. We soon passed over a dark belt with about one-half forest. The soil had a brown color. A large part of the land needs drainage. One could see several fairly large lakes from the plane. Of course, this is the first time on the trip that I had met the regular outline of sectionized country.

After fifteen minutes out, the forest was pretty well confined to the local hummocky areas, which were probably old dunes. Perhaps the soil is Chernozem, or slightly degraded Chernozem. There were some woodlands on each farm. Beyond Camrose there were few ponds and no lakes, but just a little ways further there were many clumps of scraggy forest and the spottiness suggested Solonetz. This area was somewhat more undulating than that we had just passed over. The land is mostly devoted to wheat with perhaps 15 percent of the arable land in fallow. About 90 miles out we crossed some rolling country with a great many spots, small and irregular. Some of these were occupied by small trees, often with grass on the inside. The soil is brown in color. A little further on, the percentage of spots increased until they occupied fully 50 percent of the land, which

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U. S. Scientists Praise Russian Colleagues

17 RETURN
FROM VISIT

'Pure' Research
Impresses Party

By MILTON KAPLAN

Staff Writer
of the Minneapolis Morning Tribune
Basing their expressions on an unrestricted inspection in Russia, 10 internationally-known scientists, including Dr. I. M. Kolthoff of University of Minnesota, voiced unanimous admiration of Russian science Friday in Minneapolis.

The men, representing many scientific fields, were members of a 17-man American delegation which visited Moscow and Leningrad on invitation of the Russian embassy in Washington for celebrations on the 220th anniversary of the Soviet Academy of Science.

HONORED BY STALIN

Their visit, along with those of scientists of other countries, was considered so important that President Truman arranged flight accommodations and Premier Stalin entertained them in the Kremlin.

Along with the fact their inspections of Russian science were unrestricted, what impressed the scientists most was the manner in which the Russian government is "pushing" science; the high esteem in which science is held there and the fact more and more Russian laboratories are being filled with more and more young scientists delving into "pure," fundamental science which may bring no tangible fruits for decades.

RUSS TALK FREELY

"I received frank answers to my questions," Dr. Kolthoff, head of the university's analytical chemistry division who has been supervising bases of rubber research for the government, said.

"Russian scientists doing rubber research talked freely with me on what they have done," Kolthoff said. "They had no reservations at all about things on which I had to be secretive."

The fact Russia has established a great many special research centers, while most research in America is done at universities, and the willingness of the Russian government to defer for scientific work youths in age brackets America has been drafting, also were noteworthy, Kolthoff said.

STUDY DURING SIEGE

Persistence of the Russian advancement of science was reflected, he continued, by the fact research was carried on in Leningrad even during the German siege, while famine was raging and people were dying in the streets.

Duncan MacInnes, chemist and member of the Rockefeller Institute for Medical Research, said "the Soviets are pushing science in every possible way—possibly more than we are. The scientist in Russia ranks higher than he does here, ahead of all but the highest government and military leaders."

In the Kapitza laboratories in Moscow and the Joffe laboratories in Leningrad, M. S. Vallarta, physicist president of the National Academy of Science in Mexico, said he found research on liquefaction of gases for manufacture of steel "fully comparable with what's being done around the world."

Vallarta said he also saw considerable research on cosmic rays, which he described as "one of the purest of pure scientific tasks."

GOVERNMENT HELPS

"All the work I saw," Dr. Irving Langmuir, Nobel prize winning chemist of the General Electric Co. research division, said, "was purely fundamental, done for long range effects. It was being done with the support of the government."

"The Russians have reached a very high state of achievements in biology, physics and in the applications of scientific principles to public health," according to Dr. Jacob Heiman, associate editor of the American Review of Soviet Medicine, assistant professor in cancer research at Columbia university and physician at Sydenham hospital in New York.

"In their rebuilding of bomb-wrecked cities," Dr. Heiman said "the Russians are using specialists in sewage disposal and are studying medical facilities and control of diseases even in such places as dock terminals."

DESIRE COLLABORATION

A. L. Nadal, Hungarian-born consulting engineer at Westinghouse research laboratories in Pittsburgh, a specialist in mechanics, said "the Russians I saw were working on the same things I am."

Many of the scientists were as enthusiastic over the Russian desire for international collaboration in science as over scientific developments there.

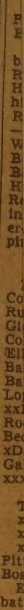
Dr. James Alexander, mathematician and long-time professor in the Institute of Advanced Studies at Princeton university, said he was invited to lecture for the academy next winter. Others reported similar invitations.



AMERICAN SCIENTISTS IN MINNEAPOLIS AFTER TRIP TO RUSSIA

Left to right: Drs. I. M. Kolthoff, J. E. Church, James Alexander, Jacob Heiman, Duncan MacInnes, Harlow Shapley, A. L. Nadal, Irving Langmuir and Charles Kellogg

Friday. Boston also won the first game, 13-5. Holmes tied the record of 33 straight games with a terrific hitting spree in the first game in which he hit his 13th homer of the season, a double and a single. The mark was established in 1924 by Rogers Hornsby of the St.	Louis Cardinals. Losing no time in setting the new mark, Holmes cracked a sharp double in his first time at bat in the second game off Elwyn (Preacher) Roe, Pirate pitcher. It was a two-bagger with which he tied the record in the first game, also on his first time at bat.	That time, left hander Al Gerheuser was the pitcher. On both the tying and record setting hits, the umpires stopped the game to put a new ball into play, presenting the others to Holmes. The first game homer also was significant enabling him to es-
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Rookie, Reds Finally Edge Giants, 3 to 2

NEW YORK—(P)—Taking advantage of New York's inability to hit in the pinches, the Cincinnati Reds gained their first victory over the Giants in seven starts this season when young Howard Fox shaded Van Mungo, 3-2, Friday.

The Giants combed the rookie's righthanded offerings for nine hits and coaxed seven bases on balls, but hit into three double plays to spoil promising rallies and stranded 12 runners on the base-paths.

Ernie Lombardi hit his 14th homer of the year for the Giants in the eighth with nobody on base to regain the league lead from Boston's Tommy Holmes, but flied out in the ninth with the bases populated to end the game.

The Reds scored all their runs in the fourth after two out when a base on balls, singles by Kermit Wahl and Johnny Riddle, and a double by Woody Williams produced three runs. The Giants tallied their first run in the fifth when Mungo tripled and scored on Jim Mallory's outfield fly.

The defeat was Mungo's fourth against nine victories, while Fox gained his fourth triumph against two losses.

Clmn.	ab	po	a	New York	ab	po	a
Clay, c	4	2	4	Mallory, lf	2	0	5
Libke, lf	0	0	4	Hausman, 2b	3	2	0
M'Crmk, 1b	4	0	0	Lockman, c	3	2	1
Mesner, 3b	4	0	0	Weintrab, 1b	2	0	9
Wahl, ss	4	2	2	Lombardi, c	5	1	5
Williams, 2b	4	2	1	D'Gard, lf, rf	3	1	2
Y. Kilde, c	4	2	3	Kerr, ss	3	1	0
U.G. Walker	1	0	0	Reis, 3b	3	1	1
Enger, c	0	0	1	zolt	1	0	0
Fox, p	4	0	2	Jurges, 3b	0	0	0
				Munoz, p	3	1	3
				ezKluttz	1	0	0

Totals	34	8 27 12	Totals	33	9 27 12
—Batted for J. Riddle in ninth.					
—Batted for Reyes in eighth.					
—Batted for Mungo in ninth.					
Cincinnati	000	350	000-30	000-30	
New York	000	010	010-2	010-2	
—J. Riddle, Malloy, Lombardi, Two base hits.				—Williams, 2	
—Clay, 2; Williams, Lockman, Three base hits—Mungo.					
Home run—Lombardi. Double plays—Wahl, Williams; McCormick, Williams.					
Wahl and McCormick. Bases on balls—Fox, 2; Mungo, 2. Strikeouts—Fox, 4; Mungo, 5. Hits by pitcher—Fox (D. Gardner), 10; Williams, 10; Mungo, 10. Errors—Hendin and Stewart, 2.					
Time: 2:12. Attendance—4,773.					

If St. Thomas college fields a football team this fall it seems likely that Ed Widseth, navy yeoman, will take over as grid coach in the vacated spot of William (Wee) Walsh, it was reported Friday.

The Tommies have made a six-game schedule, and, in a special meeting of the athletic committee, Director Frank Dieg said that the college must have a football team this year, if at all possible.

Special permission would have to be obtained from the navy before Widseth, former Gopher football star and assistant to former head coach Walsh at St. Thomas, could take the coaching duties.

NEW YORK — (AP) — Emerson (Steve) Roser, 27-year-old New York Yankee right-handed pitcher, passed his pre-induction examination and now awaits a call to the army, selective service headquarters announced Friday.

was used mostly for grazing. There were very few fields.

At about 130 miles there were more fields but still many spots. There were several Solonetz spots, areas of Solonchak in the playas, and several small lakes. I saw a few field shelter-belt strips. Apparently the soil is Chestnut. It began to look very much like western North Dakota. At about 175 miles there was an increasing percentage of fallow and a great deal of solodized-Solonetz, largely reworked by tillage. Some of the gully slopes had eroded but appeared to be stabilized now. About 200 miles from Regina the micro-relief suggested the possibility of some dunes or hummocky glacial till as well as solodized-Solonetz. The land became rolling and more of the boundaries of the fields were natural boundaries. Here there is a good deal of bad solodized-Solonetz. In some places the land is only one-half occupied. As we go toward Regina the soil and agriculture improved rapidly until we seemed to be back on good Chernozem. We landed at Regina at 8:33 a.m. and left at 8:55, or 9:55 a.m. Minneapolis time.

We flew across Devils Lake and Fargo in North Dakota and straight on to Minneapolis. I was surprised at the number of ponds one sees from the air in North Dakota.

We arrived at Minneapolis at 1:30 p.m. This was the end of our trip with the Army Transport Command. I left Minneapolis by train at 9:30 p.m.

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A few supplementary notes on the Soviet Union

To me, the people seemed more like Americans than those in other European countries I have visited in their friendliness, good nature, and frankness.

One is impressed by the vigor of the people, their desire to "get ahead", and their confidence in their own future as a nation.

All the people, from the lowest to the highest, have a profound respect for and confidence in science. Accomplished scientists and artists are placed in the very highest rank. They are eager to learn: difficult scientific books are sold in what would be enormous editions in the United States.

They are very proud of the Red Army and certainly would fight any invader to the last Siberian hut.

But they are very tired of war, and desperately want peace to build their country into the great society they are so confident they can create.

Seemingly all the people are well aware of the aid America gave the Soviet Union during the war and are very grateful. They had great admiration and regard for the late President Roosevelt. Americans were obviously much more popular in the Soviet Union than the French or English.

There is a great scarcity of all consumer goods, including many things middle-class Americans (but not share-croppers!) regard as essential. But they are confident they shall have these things and more.

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and more.

Now that the European war is over, they expect that strict rationing, in classes according to the importance of the individual, will be relaxed.

The Secret Police are vigilant and likely over-zealous and, unfortunately, Russian officials take their reports of political offenses more seriously than American officials the reports of our Federal police. I should expect personal liberty in the U.S.S.R. to be slowly expanding, however.

Soil science seemed to me still a bit too classical, but rapid progress in salinity control, erosion control, and fertilization is being made. I confidently expect rapid strides in the next few years -- perhaps faster than we can do in America.

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Reunion in Moscow

As the San Francisco conference prepared to adjourn, United Nations scientists were staging their own show of international unity in Moscow last week. Cabled TIME Correspondent Craig Thompson:

The ink had hardly dried on the declaration of surrender by Germany when the Soviet Union Academy of Sciences, which had already planned a jubilee to celebrate the 220th anniversary of its founding by Peter the Great, decided to turn the observance into the first international gathering of scientists on the Allied side since the London conference of 1941.

In response to hastily distributed invitations from the Soviet Academy, upwards of 150 men of science gathered in Moscow last week. They came from Australia, Belgium, Bulgaria, Canada, China, Czechoslovakia, England, France, Finland, Hungary, India, Iran, the Mongolian Republic, Rumania, Sweden, the United States and Yugoslavia. Their names ranged from illustrious to illustriously obscure.

From France came Frédéric and Irène Joliot-Curie, and Mathematician Henri Laugier. Among England's delegation of 20 were Biologist Julian Huxley, Royal Academician Sir Robert Robinson. England would have sent more but for Winston Churchill's last-minute refusal to grant exit visas to some ten men engaged in war research. From the U.S. came 16, including Harvard's Astronomer Harlow Shapley and General Electric's Chemist Irving Langmuir.*

Soviet Steam. Even before the scientists began to arrive, the Soviet press turned on full propaganda steam to make all Soviet citizens science-conscious.

For some of the visiting scientists, it was a first opportunity for firsthand examination of science as a monolithic state enterprise. Except for independent academies in Georgia, Armenia, Uzbekistan and Azerbaijan, all Soviet science is under the direction of the Soviet Academy. Within this organization are 76 research

* Among those not present was U.C.L.A.'s Geneticist Herbert Spencer Jennings (TIME, Feb. 5), who turned down an invitation because he was too busy propagating new types of paramecium.

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institutes, 11 independent laboratories, six observatories, 42 meteorological and astronomical stations, 73 libraries and 16 museums. The Soil Research Institute in Moscow alone is an eight-story building covering more than a city block.

Science & the State. One great question troubling the visiting scientists was: can science be free when it is state-controlled? Academician A. F. Joffe undertook to lay their doubts at rest. Said he: "Can scientific research be planned? There are people who claim that fulfillment of any plan is incompatible with the private initiative of a scientist, and that science, aiming at solution of practical problems in industry, agriculture, transport or defense, delays treatment of deeply theoretical problems which promise nothing in the way of practical results in the immediate future. Yet the experience of science in the Soviet Union shows that these and other contradictions advanced by the opponents of state participation in the guidance of scientific endeavor are purely imaginary.

As illustration, I can cite an experience of my own. This happened in May 1930, at a time when our country was still comparatively poor and all efforts and means were directed at fulfillment of the first five-year plan. My colleagues at the Institute and myself thought it was essential to begin work on the atomic nucleus. We were worried, however, because . . . the new researches we outlined required the additional expenditure of several hundred thousand rubles. I went to Sergo Ordzhonikidze, who was chairman of the Supreme Economic Council, put the matter before him, and in ten minutes left his office with an order signed by him to

TIME, JULY 2, 1945

assign the sum I had requested to the Institute. Once started, we have continued work on the atomic nucleus for 15 years as an essential part of our plan."

The visitors, who had come to observe rather than argue, offered no comment.

Hail Darwin! Hail Franklin! The second get-together was in the red-and-gold Bolshoi Theater. On the stage, where the academicians sat, a white, heroic-sized bust of Lenin stood on a pedestal underneath a mammoth poster portrait of Stalin. President Komarov's welcoming address (read for him because he was ailing) proposed greetings to Stalin, Molotov, Kalinin, the Red Army, the Red Navy. The conferees enthusiastically sent them.

In Russian political propaganda and agitation, Charles Darwin is the most quoted of English scientists, because his *Origin of Species* is considered a refutation of the supernatural. Toward the end of Komarov's speech, he reviewed British science in two paragraphs, most of which was devoted to the great work done by Darwin. American science was covered in one paragraph, which mentioned Benjamin Franklin.



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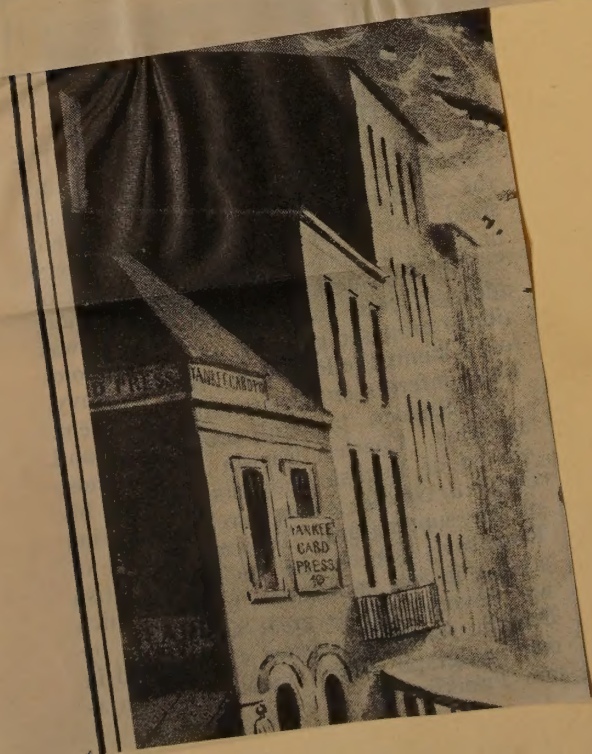
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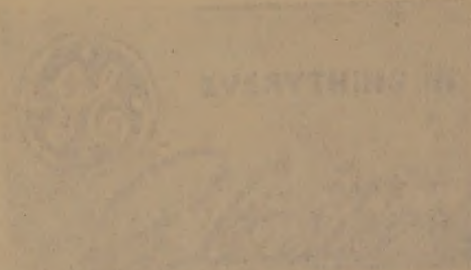
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One of my "messages" to the people of the U.S.S.R.

One is immediately impressed with the size of the Soviet Union and the great diversity of resources and people. Although the war against the invader interrupted the march toward improved living, both the resources of the country, industrial and agricultural, and the social awareness of the people, make a great future seem certain.

For years American soil scientists have recognized the leadership of the Dokuchaiev Institute in the development of modern soil science. Also the accomplishments of Russian scientists in plant physiology, nutrition, and genetics have been of the utmost importance. Our present visit has given us greater insight into the practical use of these scientific principles in the improvement of agriculture through the State and collective farms.

Much was learned from visits to the Experiment Station at the Timryazev Academy and the Dolgoyepudnoe Pole Experiment Station as well as to the Dokuchaiev Institute. Not only are results being obtained at these research institutes of the greatest importance to increasing agricultural production and to improving rural living in the Soviet Union, but also they are of great value to American farmers.

As soon as possible a large exchange of professors and advanced students of agricultural science must be arranged between

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the United States and the U.S.S.R. We need to learn each others' languages so we may read more avidly of the large volume of important works being produced. Furthermore, agriculture is out-of-doors. To be understood it must be seen first hand. We need to travel together among the farms of both countries and see what new researches are needed as well as how to apply the principles both have developed.

These things and more can be expected. Certainly the people of both our countries have a profound respect for one another's talents and accomplishments and a deep realization that the future peace of the world depends, more than anything else, on effective cooperation between the two countries. The language of science is international. From common intellectual understandings in science we can and will develop sound and political understandings that will bring on a new age of peace and opportunity for the whole world.

Then there was the cinema. We had it twice a week, mostly non-political stuff. The SS had a sense of humor. They put the screen in the room where the beating-block was kept. We used to watch films of people eating and drinking and sitting in armchairs, with the beating-block just there behind. But on the whole it helped."

I shall never forget that dinner party. K—— with his neat gold-rimmed glasses, his boyish enjoyment of

a good story, seemed not only to have survived Buchenwald, but to have developed out of it a new, steely, ironical philosophy. Perhaps, I thought, as I listened to him, the fraternity and internecine struggle of Buchenwald, the mixture of idealism and conspiracy, of self-sacrifice and self-assertion, are a microcosm of the moral and political struggle which will face all of us in the postwar world.

London

R. H. S. CROSSMAN

A Scientist Goes to Russia

ON SATURDAY I dined with Stalin in the Kremlin; on Sunday I had tea with my wife in Hampstead. The tea was tête-à-tête: the dinner comprised some 1,200 guests. Indeed it was not a dinner, but a banquet, lasting for nearly five hours and displaying a profusion of food and drink that we in Britain have not seen for almost six years. This banquet was one of the many proofs we received of the great prestige which science enjoys in the USSR, for it was given to the delegates to the celebrations of the Russian Academy of Sciences on the 220th anniversary of its foundation. There were more than twenty of us from Britain; nearly as many from the United States; a strong team from France, and smaller numbers from Canada, Poland, Hungary, Australia, Belgium, India, Sweden, Bulgaria and various other countries. All the Russian academicians were there and hundreds of delegates from all over the Soviet Union. I met one Mongol delegate from the sub-Arctic region of Siberia who was a specialist in the history of science.

Let us suppose a parallel event in Britain—that the Royal Society, immediately after the Japanese war ends, were to organize a fortnight's celebration to which foreign delegates from all over the world, as well as large numbers of scientists from the mother country, the dominions and the colonies, were invited. Then, to make the parallel with our experience, the Royal Society would provide free transport and free hotel accommodation for its foreign guests, would give an enormous dinner in the Savoy or Grosvenor House, would take Covent Garden for a night of opera and the Albert Hall for a special concert, would arrange for several special trains, all of sleepers, to take the party to Edinburgh—where the city would provide another banquet—and would, with its guests, be entertained at the Guildhall by the British government, the Prime Minister, the Foreign Secretary and other Cabinet Ministers attending in person. Furthermore, all the papers—*Times*, *Manchester Guardian*, *Daily Herald*, *Mirror* and all the rest—would feature the celebrations, and the achievements of science, especially British science, as front-page news, often the main front-page news, for two weeks.

A man at the Australian Legation in Moscow told me that he had asked the servants there who was president of the Academy, and they all knew. I wonder whether even five percent of the people of Britain could name the president of our Royal Society, or five percent of Americans could say who was the head of the National Academy of Science?

Though there were a certain number of rather lengthy formal meetings and celebrations, for the most part the delegates were free to visit the laboratories and institutions that particularly interested them. One of the striking facts about Russian science today is the huge scale on which research is carried on in many subjects. My geological colleagues told me of the Geological Survey of the USSR, and related organizations, which are exploring the geological structure, the mineral resources and the fossil records of evolution of this immense area—one-sixth of the world's land surface—at a rate quite unprecedented in any other country. Some of the results have been of great importance for the war—for instance the discovery of huge resources of nickel on Russian territory. Forestry research is on a scale which makes our provisions in this field look trifling. Agricultural research (and also teaching and extension work) is, of course, of vast scope, though in this field the *application* of knowledge will be much behindhand until the present shortage of tractors and the almost complete absence of fertilizers can be remedied.

In modern soil science the Russians have led the world from the first. It was interesting to be told by a British soil scientist who had been in West Africa that the only soil map of Africa in existence has been made by Russians, and that the Russian soil map of Australia, compiled in Moscow, is better than that executed in Australia itself.

In the physical sciences, my physical and chemical colleagues tell me that the same large scale characterizes much of the research in progress. The work is in general of high quality, even if few outstanding discoveries have recently been made. In Kapitza's laboratory you can see helium in what is known as the superfluid state, only a couple of degrees above the absolute zero

of temperature (it is interesting that this was independently and simultaneously discovered in England). Kapitza has also elaborated new methods for liquefying air and extracting liquid oxygen from it, which are likely to be of considerable practical importance. Joffé, the eminent physicist, is directing studies on the physics of the soil.

Work in physical chemistry—for instance in relation to the process of combustion and to chemical reactions at surfaces—is very active; and organic chemistry, as might be expected, is busy on a large scale with the building up of synthetic chemical compounds, with a view to practical use.

A great deal of research is being done on the physiology of the brain and on behavior, along the lines instituted by Pavlov. I was particularly interested to find that the scope of such work extended to studies on the inheritance of behavior patterns and temperament in insects and in birds and dogs.

In my own field of general biology, the quantitative scale of the work in progress was not so enormous, but it was interesting to find that the Russians were attacking the problem of evolution on strict Darwinian principles, and from a great many angles at once—genetics, field study, cytology, museum classification, ecology, and so on—along lines very similar to those that we and the Americans have been independently pursuing during the war.

It has sometimes been stated that scientific views in Russia are dictated by Marxist orthodoxy or have to adjust themselves to political pressure. This is certainly not usually the case. Thus in biology, Lysenko has been advancing revolutionary theories as to heredity: he is also in a position of great scientific power, as president of the Academy of Agricultural Sciences, and also in one of great political power, as a vice-president of the Supreme Soviet. However, in spite of this and of his bitter opposition to Mendelian theories of heredity, the above mentioned evolutionary studies, which are all based on Mendelian principles, continue to flourish.

The only field of natural science where Marxist theory seems to have an effect is that of psychology. True to the materialist principles of Marxism, Russian investigators appear to confine themselves almost entirely to the behavioristic and physiological approach, leaving out the mental aspects. Thus Freudian psychoanalysis, as well as introspective psychology of the classical kind, seem to be taboo—or at any rate are not studied. Finally, it was interesting to find that, in spite of the claims of war on science for immediate useful results, Russian scientists in most fields seem to have been able to continue with more pure research than have their colleagues in Britain or America.

Perhaps I can add a few words about non-scientific matters. Ballet, opera and theatre are in full swing in every large town, and reach the highest standards, though the two first confine themselves almost entirely

to classical or old-fashioned works; and we saw no German composers—even Mozart, who was an Austrian—featured on any of the programs. The encouragement of the arts is a deliberate policy: thus male ballet-dancers are exempt from military service, but have had to give almost half their time to entertaining the Red Army.

In general, civilian life has been subordinated to military needs to a considerably greater extent than in Britain or America. Thus civilians' clothes are often extremely shabby, though the uniforms of the fighting forces are of good quality. However, thirteen age classes are just about to be demobilized, so that the switch-over from war to peace production, which has already begun, will doubtless soon make life easier. Meanwhile the queues for Moscow buses and street cars are enormous—up to fifty or even a hundred people patiently waiting in line. And women are still doing almost all the heavy work on roads and on house repairs in the cities.

Prices are a puzzle to the visitor from the West. For rationed goods, there are two prices—one, very cheap, for what you are allotted on your ration card; the other, very high at the moment (up to ten or twelve times as much), for what you buy in the open markets (there are 49 of these in Moscow alone), or in the commercial shops run by the state. The open markets and commercial shops also sell all kinds of unrationed goods, but again at very high prices. (Books are the only commodities which sell at prices roughly equivalent to those in Great Britain.) As more consumption goods are produced, the government is gradually lowering the prices in the commercial shops (they have already come down considerably since last year), and this automatically brings down the prices in the open market. The price system seems to be designed to check inflation on the one hand, and on the other hand prevent hoarding or the growth of anything like a strong rentier class.

There is no pretense of equality in the present set-up in Russia. At the moment, class privileges (if I may use the word class in a very wide sense) are, I should say, more marked than in Britain or the United States, though the classes are different, being based on the importance of the work done or the position held. Thus a general has special rations, and can buy at a special discount in the state shops; again, an academician is entitled to more rooms than an ordinary professor or civil servant: and factory managers and various categories of industrial workers, notably Stakhanovites, have special privileges.

One thing has struck all observers during the war—and before it: the health and the favored treatment of the Russian children. I cherish the memory of happy little Moscow boys and girls making crowns of dandelion flowers, on the grass below the grim walls of the Kremlin.

JULY 30, 1945

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The general impression given by the USSR at the moment is of a giant nation at last fully conscious of its strength and of its future possibilities of development, both material and intellectual, but still, largely as a result of unhappy memories from the past, somewhat suspicious of the capitalist West, its life still isolated from the rest of the world to a greater extent than that of any other important nation.

The celebrations of the Academy of Sciences, held so soon after the end of the German war, demonstrate

the desire of the USSR for fuller international coöperation in all spheres and constitute one important step toward breaking down this isolation. We may, I think, hope for further steps in the near future, such as the exchange of advanced students and professors. In any case, it is abundantly clear to any visitor from Britain or the United States that mutual confidence among our three nations is indispensable for peace and peaceful development in this troubled world of ours.

London

JULIAN HUXLEY

That there will be some sort of revolution, peaceful or otherwise, is certainly in the cards if the Filipinos are to establish any sort of truly democratic regime, and it must be on both a political and an economic basis.

Little is heard here in the United States of the demands and desires of the guerrilla groups, and what they have been fighting for. They have been fighting not simply because they "love America," but because the Philippines are their home islands. They have been fighting first of all for freedom from the hated Japanese, next for a decent economic chance, and third,

sour. It will take at least three years to restore plantations to their former productivity. Most of the sugar refining centrals have been razed. The copra industry, too, has been ruined. Thousands of acres of coconut groves have been allowed to deteriorate and crops have not been gathered. The processing mills have also been blown up and the expensive, imported machinery stolen or destroyed. It will take years before they can be rebuilt and replaced. The hemp industry, which was almost entirely in Japanese hands on the island of Mindanao, is laid waste.

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TWO HUNDRED AND TWENTY YEARS
OF RESEARCH
IN THE ACADEMY OF SCIENCES
OF THE USSR

ADDRESS DELIVERED

by N. G. BROUEVITSCH

Member and Secretary of the Academy

TO THE 220th ANNIVERSARY MEETING
OF THE ACADEMY OF SCIENCES OF THE USSR

(Brief summary)

The war against the German invaders has been brought to a victorious conclusion. Under the banner of Lenin the Red Army led by the great Stalin has successfully defended the freedom and independence of our Fatherland and helped the peoples of Europe to throw off the German yoke.

To the effort that has strengthened the resistance of our nation and eventually brought about the defeat of the enemy a considerable contribution was made by the Soviet scientist.

Credit for this belongs in a great measure to the Academy of Sciences of the USSR, which is the supreme scientific institution of the country.

Since its foundation more than two centuries ago the Academy has strongly influenced the development of Russian culture and the world science.

That a Russian Academy was to be founded was decided in 1724 by an edict signed by Peter the Great. In 1725 it actually came into existence.

It was not long, however, before the first Russian scholar, Mikhailo Lomonosov, rose from its ranks into prominence and made valuable contributions in nearly all fields of science — chemistry, physics, geography, astronomy, geology, metallurgy, language and literature. Mikhailo Lomonosov was a genius of first magnitude. He anticipated the modern ideas of atomism and the law of conservation of energy and matter; put forward a consistent geological theory of the Earth; gave an adequate interpretation of the origin of coal and amber. His services in the study and development of the Russian language are invaluable.

In the XVIII century the activities of the Academy evolved mainly along two lines: the exploration of the natural resources of Russia, her geographical outline and population, and research in the domain of mathematical and natural sciences.

The numerous expeditions arranged at the time gave very important results. The north-western shore of America was discovered; the Kuril Islands and North Japan were described; most interesting data were secured on the archaeology, geology, flora and fauna of this country.

In the XIX century the work of the Academy greatly increased in volume. Among the Russian academicians of the time are many names of world-wide repute — P. L. Chebichev, mathematician; F. A. Brédikhin, astronomer; A. M. Butlerov, chemist; V. V. Petrov and E. Kh. Lenz, physicists; K. M. Baire, biologist and geographer, and several others.

Immensely important was the rôle of the Academy in developing the Russian language and establishing standards of spelling.

But it is not until after the Great Socialist Revolution of October that the Academy could develop its work to the full. The leaders of the soviet nation, V. I. Lenin and J. V. Stalin, called upon the scientists to do their utmost in furthering the growth of the young Soviet State.

At present the Academy consists of eight sections: Mathematics and Physics, Chemistry, Geology and Geography, Biology, Engineering, History and Philosophy, Economics and Law, Literature and Language.

Apart from this, separate branches and bases have been set up during the last decade in the different republics of the Union. They have become leading local centres of research, and by studying the natural wealth of the respective republics fostered their economic and cultural development. In Georgia, Armenia, Uzbekistan and Azerbaidjan these local branches have made rapid growth and been reorganized into independent Academies.

The Soviet scientists have been remarkably successful in all fields. Most fruitful work has been done by I. P. Pavlov in physiology; by A. P. Karpinsky in geology; by V. I. Vernadsky in geochemistry; by N. J. Marr in linguistics; by V. L. Komarov in botany; by A. N. Krylov and S. A. Chaplygin in applied mathematics; by P. L. Kapitzka in physics; by A. I. Abrikossov, A. A. Bogomoletz and N. N. Burdenko, in biology; by T. D. Lyssenko in agronomy.

The peaceful work of our people was interrupted by the treacherous attack of the German fascist hordes.

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ADDRESS

delivered by V. L. KOMAROV

President of the Academy

TO THE 220th ANNIVERSARY MEETING
OF THE ACADEMY OF SCIENCES OF THE USSR.

(Brief summary)

After opening his address with a few words of welcome to all those who have honoured with their presence this anniversary meeting, the President proceeds to outline the history of the Academy. There has been three distinct periods in its development, he says. The first running through the XVIII century is associated with the names of Peter the Great and Lomonosov. The second period, embracing the whole of XIX century and the beginning of XX, produced a series of distinguished workers in different fields — astronomy, mathematics, physics, chemistry, geology, history and other sciences. The third period, in which we are now living, began scarcely more than a quarter of a century ago when the Academy bent all its efforts to a most complete fulfilment of the various needs that had arisen in connexion with socialist reconstruction.

The Russian Academy of Sciences was created by the genius of Peter the Great as a link in his gigantic scheme of reconstruction of the country.

Immediately connected with the building up of the Army and Navy, the construction of dock-yards and works, manufacturies and centres of commerce was the need to investigate the natural resources of the country, and with this task occupied itself the Academy. In this respect much was done by Lomonosov. The whole first period is stamped unmistakably with his personality and may be named after him.

Its most prominent feature, the President said, is the encyclopedic character of research. It was a period of struggle for a scientific outlook. In all the diversified fields, where the members of our Academy were active, they fought for a rational interpretation of

facts. The human mind, freed from the scholastic way of reasoning, characteristic of the Middle Age, refused to acknowledge the supremacy of any other authority. In the domain of natural science this tendency at that time expressed itself in a mechanical interpretation of Nature.

Proceeding to characterize the second period in the history of the Academy, Komarov distinguishes the XVIII century, marked by the struggle of Encyclopedists for a rational outlook, from the XIX century, the time of positive achievements in individual disciplines.

During the latter period, Science in the process of differentiation had accumulated an immense store of information in every domain, and thereby produced a marked impression on every side of man's life. Differentiation had created the necessary conditions for the further advance of Science. Especially characteristic of the XIX century is therefore the separation and development of new disciplines. Also in this Academy more than one new branch of knowledge was initiated during the XIX century. Of them a considerable portion was a result of the activity of Russian workers.

In the second period Russian science was not confined within the Academy. Outside the latter, Science developed in Universities and other scientific institutions. At times it experienced violent outbursts of activity following such social upheavals as the National war of 1812, the rise of the Decembrists against absolute monarchy, and the revolutionary movement of the 60-ies. This period is associated with names of world-wide renown — Mendeléev, Metchnikoff and Setchenov. The eminent scholars within the Academy in the XIX century were Chebichev and Ostrogradsky, mathematicians, Butlerov, the creator of the theory of chemical structure, and other chemists; the XX century has given us such outstanding workers as Pavlov, Karpinsky, Vernadsky, Marr and others.

The third period is characterized by Komarov as follows:

If we describe the XVIII century as a century of reason, the XIX century as a century of science, then our times may be described as a universal penetration of Science into the life of Man.

Our's is a century when the tools of industry, social forms and even Nature itself are remodelled on the principles of Reason and Science. Our country has gone far on this way. We have brought into harmony the different forms of life and industry. Science has become the basis on which is built the structure of our State. The most advanced scientific theory, the doctrine of Marx — Engels — Lenin — Stalin, underlies the practical activity of the Soviet nation. The party of

scientific communism is leading the people on the road of progress. Lenin and Stalin, these primarily important figures of science, have been the founders and leaders of our State. It is a special pride of this Academy to count among its honorary members Joseph Stalin, who combines an unequalled proficiency as a scientist with the qualities of a great statesman and military leader.

The President dwells upon the contribution made to Science by Lenin and Stalin. The main reason of our successes lies in the Soviet system of government, which is the corner-stone of our State. It is owing to this system that in a short space of 25 years the old Russia has been transformed into a great power built upon socialist industry and collective ownership and management of land. It is also this system that has brought about the cultural revolution which permitted the masses so rapidly to master the tools of modern industry. This is expressed with great force in the fact that millions of our men in the Red Army have become masters of tank fighting and brilliant gunners. Now that the results of the reforms ushered in by the Soviet Government have manifested themselves with such completeness, it is especially fitting to turn our thoughts to him who has created the Soviet system and was one of the greatest scientists of all ages — Wladimir Ilyich Lenin. It is scarcely two months since we marked the 75th anniversary of Lenin's birth. Lenin discovered the Soviet system as a new form of State structure through studying the history of mankind and above all the revolutionary struggle of our people. This was a scientific discovery of greatest significance. Until then no such form of government had been known in the history of man. Lenin was destined not merely to give shape and theoretical foundation to this new idea, but also to materialize it in life. Lenin laid the basis of the Soviet system which was then consolidated and adapted to new concrete conditions by his comrade in arms and successor, Joseph Stalin.

There is no problem of great importance in our eventful life which would not have been stamped by the genius of Stalin. Suffice it to mention the creation within an incredibly short period of time of such an industry which has secured our Country the foremost place among the nations of the Europe. This compares strikingly with the fact that old Russia was, even on a very moderate estimation, hundred years behind her time as regards her economic development.

As my work as a scientist lies near to the domain of agriculture, I may be permitted to call to mind the creation of big socialist agriculture in a space of 10—15 years. This was a gigantic accomplishment

which is justly compared in importance with the Great October Revolution. It was made possible because it was based upon the conclusions derived from the Marxian — Leninist science, which is the most complex scientific branch — having society for its subject.

The third period has seen the discovery of super-fluidity in helium by Kapitza; our chemists are proud of the theory of physical-chemical analysis developed by Kurnakov, of the works of Zelinsky, Favorsky and others. Remarkable biochemical ideas have been developed by Bach. Mechanics and mathematics have received valuable contributions at the hands of Krylov and Vinogradov. The study of the Earth's crust has been substantially advanced by the investigations of Obruchev. In physiology important work has been done by the pupils of Pavlov headed by Orbeli.

All these achievements are connected with the practice of socialist reconstruction with the participation of scientists in the economic development of the Country, and would never have been attained without the care and attention received by the Academy from the Soviet Government and, personally, from Stalin's closest collaborator, Viacheslav Mikhailovich Molotov.

The power of the Academy of Sciences of the USSR as the scientific centre of the Union became conspicuous during this great national war with the German invaders. With the Country, with the whole body of scientists, the Academy put all its strength in the defense of Fatherland and had substantially contributed to the defeat of the enemy.

A feature characterizing the development of science during the third period is that the «complex» method was used in working out scientific problems. As an example of such «complex» way of treatment, the President refers to the work of the Committee on the Mobilization of the Urals' resources of which he has been the head.

This Committee, says he, has worked out the most urgent methods to be undertaken in ferrous and non-ferrous metallurgy, power engineering, transport, manufacture of building materials, and agriculture. During the 50 years that I have been working as a scientist I have never felt so completely satisfied as since I have been given the opportunity to work at the mobilization of the inexhaustible resources of this great Country of ours. Never have I seen our scientists to work with such enthusiasm. All fields of Soviet science have been involved. The physicists were occupied with the theoretical and experimental work aimed at the construction of new types of armament, mathematicians have worked out new rapid methods of calculation for artillery, aircraft and men-of-war; chemists have developed new

processes for producing explosives, alloys, pharmaceutical substances; biologists discovered additional food-resources for the Red Army and the population; and many thousands of lives of our Red Army men so precious to us have been preserved thanks to the new methods of war medicine worked out by our scientists. We feel proud of the idea that our work has been helpful in some way to the Army and Navy which have given so good an account of the enemy.

In conclusion the President emphasizes the strengthening of international relations between the scientists of the countries united in the struggle against Hitlerism.

In its struggle against fascist Germany the science of the anti-Hitlerite coalition leaned upon its historical traditions. The science of the freedom-loving nations has grown up under the banner of democracy and progress.

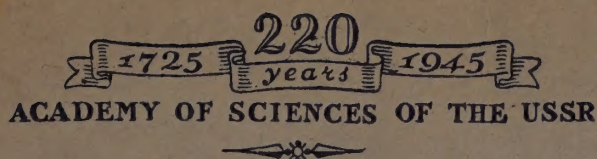
The ideas of freedom and democracy were a guiding star of the progressively minded circles of the English society at the time when modern natural science developed in England. It is these ideas that inspired the activity of the great English scientists, Bacon, Newton, Faraday, Maxwell, Darwin and others.

Historically, Russian science is connected with English science: the works of Darwin met in Russia with a universal response. Darwin himself watched with interest the first steps of his Russian followers, and by now Darwinism has found in Russia a second motherland. English scientists have greatly valued the works of Mendeléev, Timiriazev, Pavlov, Lebedev and other prominent workers of Russian natural science. During this war the Soviet scientists strove to strengthen and further develop their connexions with the English science.

American natural science is likewise thoroughly instilled with progressive ideas. The first great American naturalist, who had investigated atmospheric electricity and built the lightning-rod — Benjamin Franklin, was a fighter for freedom. As an example of the scientific connexion between Russia and America, taken from the past of these countries, one may refer to the work of Lomonosov in physics, in which he revealed himself as a successor of Franklin. The Academy of Sciences is true to these traditions and is endeavouring to extend its connexions with the American science.

Friendly relations confirmed by tradition connect us also with the French science: we remember the kind reception in France of the works of Chebichev, Metchnikoff and Vernadsky.

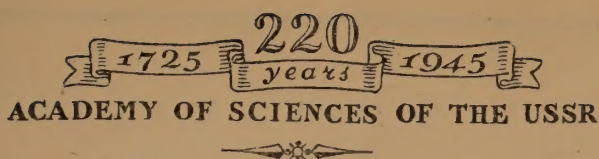
The friendship between us and the scientists of the Slav states has been also an intimate one.



THE SOVIET SCHOOL IN AERODYNAMICS AND THE ACADEMY OF SCIENCES

REPORT DELIVERED BY
B. N. IOURIEV, Member of the Academy,
TO THE 220th ANNIVERSARY MEETING
OF THE ACADEMY OF SCIENCES OF THE USSR

ACADEMY PRESS
MOSCOW 1945 Leningrad



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1. THE EARLY WORK OF THE RUSSIAN ACADEMY OF SCIENCES IN THE FIELD OF AERODYNAMICS

Ever since the foundation of an academy of sciences at St. Petersburg problems of fluid dynamics have engaged the interest of Russian workers. The initial progress was made in the domain of theoretical hydrodynamics. This most fruitful period in the development of our science is associated with the great names of Euler and Daniel Bernoulli, who were both members of the Academy.

Leonhard Euler, though a Swiss by birth, spent 31 years of his life in Russia, and his connexion with the Academy of St. Petersburg dates from the year 1727. He is responsible for more than a half of the 26 volumes published by the Academy during this period. Among them is a series of papers containing solutions of some fundamental problems of hydromechanics. The equations deduced by Euler form the basis of nearly all subsequent theoretical investigations in this science. He was the first to bridge the gulf between the theory of solids and fluids. It is Euler indeed who brought the motion of fluids within the realms of the laws which Newton had established for the motion of solids.

No less an important contribution to hydrodynamics was made by Daniel Bernoulli while he was working with this Academy (1726—1733). Down to the present day his famous equation has been the basis of all practical computations relating to the motion of fluids. It describes the relation between the pressure in a flow and its velocity. Bernoulli's «Hydrodynamica», published at Strassburg in 1738, proved fundamental for all later research in hydraulics. On the title-page and in his

introduction the author informs the reader that the book was originally a communication to the Academy of St. Petersburg.

Bernoulli has treated hydraulics in an up-to-date manner. He makes extensive use of the law of conservation of energy, and when a complex problem presents itself, he often appeals to the experiment.

To the names of these two intellectual giants we must add a third, of which Russian science is especially proud. On the first day of January, 1742, Mikhailo Lomonosov began working with the Academy. He bent his thought to the physical aspect of the dynamics of fluids. A kinetic theory of gases was evolved by him, and he refuted the phlogiston theory, which was then predominant. He invented and built an apparatus for the measurement of the velocity and direction of wind—the anemometer. Well-known are his papers on meteorology and atmospheric electricity.

He attached great importance to the study of the upper strata of the atmosphere. To this end he even designed a small flying apparatus for carrying up into the air thermometers and other meteorological instruments. From existing records it may be gathered that this probably was a small helicopter operated by a watch-spring. This small device was built and tested, but proved to be too heavy and refused to fly. With the wings working it gained in lightness considerably.

Scarcely half a century had elapsed and we find the Academy to have built the foundation of a new science from which modern aviation was to develop. Recent times have spoken in emphatic terms for the brilliance and profundity of the achievements of this period.

2. THE REVIVAL OF AERODYNAMICAL RESEARCH IN XIX CENTURY

During the second half of the nineteenth century the interest in aerodynamical research was revived within the Academy, and some of its members began intensive work in this domain.

In the first place the research is concentrated on problems of meteorology. M. A. Rykatchev performs two flights in aerostats to investigate the upper strata of the atmosphere. He exhibits a great interest in the problems of air-navigation and carries out a series of experiments in studying the lifting force of a helicopter air-screw. In 1871 he published a paper under the title «First experiments on the lifting force of a screw rotating in the air». In course of these experiments he also tested the fundamental laws of air resistance for flat surfaces. Crude as they were, his experiments anticipated by 40 years the research conducted in 1910 by the renowned French scientist Eiffel.

Constant attention to the problems of aerodynamics and air-navigation was also paid by D. I. Mendeléev. The author of the Periodic Table had a clear notion of the fundamental principles underlying the generation of lifting force and drew a precise distinction between the two possible types of flying device. «Air-navigation,—he wrote,—may be of two kinds: one in aerostats and the other in aerodynamos...». He showed evident preference for the latter. As in all things, here, too, Mendeléev did not confine himself to theoretical research and experimentation, but went as far as to design a dirigible aerostat with a propeller operated by hand.

Remarkable is his suggestion to place the aerostat crew in an air-

tight cabin to enable them to carry on observations in the upper strata of the atmosphere. So he might have claimed the rôle of a pioneer in directing human thought to the construction of stratostats.

On behalf of the War Ministry Mendeléev went abroad to collect materials on aerodynamics and air-navigation. He also carried out himself a series of experiments to investigate some fundamental problems of fluid dynamics. The outcome of these investigations was his memoir on «Resistance of fluids and the air-navigation», published in 1880. This book was highly valued by N. E. Joukovski. In it Mendeléev assigns a particular importance to friction between a fluid and the surface of bodies placed in its flow. His views were 30 years in advance of the theoretical considerations developed by L. Prandtl.

In 1887 Mendeléev performed a daring flight in an aerostat in order to investigate the state of the atmosphere during a solar eclipse. He went up alone, without a pilot, and succeeded in carrying out all the observations intended.

Next to be mentioned is the theoretical treatment of problems of hydromechanics by two eminent mathematicians—P. L. Chebichev and A. M. Liapunov.

Chebichev occupied himself for a time with designing wind engines, and Liapunov developed his famous general theory of stability of motion, which was an outgrowth of his earlier research on the equilibrium shapes of a rotating fluid.

Thus, in the period immediately preceding the creation of modern aircraft, more than one distinguished scientist in this country was already active in the field of aerodynamics.

3. N. E. JOUKOVSKI AND HIS SCHOOL

We now come to a phase in aerodynamic research which is stamped unmistakably with the personality of Nikolai Egorovich Joukovski, a man who was destined to play a decisive rôle in the development of Russian aviation and to further the advance of aerodynamics in the world at large.

A mathematician of high ability, he was also remarkably proficient in applying the mathematical analysis to the solution of intricate practical problems. Many a problem that for decades had persistently defied the attacks of world's most able engineers, yielded to the inventive genius of Joukovski.

The range of his investigations was extremely wide. He wrote over 180 papers treating various questions of science and engineering. He successfully applied himself to the solution of problems of abstract mathematics, theoretical mechanics, astronomy, ballistics, applied mechanics, aerodynamics, the theory of air-navigation and many others.

Many of his theories are now an integral part of the respective sciences and are used by engineers all over the world.

Joukovski was a man of exceptional charm and attracted numerous pupils, who picked up and developed the ideas of their teacher. After the Revolution these pupils formed the nucleus which played the principal part in the creation of our main aircraft research and educational institutions: the N. E. Joukovski Central Institute of Aero-Hydrodynamics, the Sergo Ordjonikidze Institute of Aviation and the N. E. Joukovski Military Air Academy.

The services of Joukovski in developing fluid dynamics gained him

a high place in the esteem of his countrymen. Lenin, in his decree of December 3rd, 1920, called Joukovski «the father of Russian aviation».

In the days when Joukovski started on his scientific career fluid dynamics was already a well-developed science, reduced to rule and order by a thorough mathematical treatment. It included the theory of vortices developed by foreign workers. The theory of analytic functions, a very important part of mathematics, closely related to hydrodynamics, had been already worked out.

Many important problems, however, had not been dealt with satisfactorily and much remained still to be done in order to make the result of this abstract science available to the engineer.

Joukovski had a decided predilection for concrete problems, and those connected with the phenomena that take place in a flow of water or air were his favourite subject. His first published paper, a thesis written in 1876, was entitled «The kinematics of fluids». In it he investigated with great precision the geometrical relations involved in the motion of a liquid particle. He gave an exhaustive analysis of this fundamental question which had been meagerly studied then. In doing so he essentially developed a chapter of tensorial analysis—a part of mathematics, which did not appear on the stage until much later. Since then Joukovski was engaged on problems of hydrodynamics till the end of his days. Of the long list of his papers treating different questions of this science the following may be mentioned here: «On the reaction of inflowing and outflowing fluid», «On the impact of two balls, one of which is suspended in a fluid», «On a hydrodynamic theory of friction between two well lubricated bodies», «Theoretical considerations on the motion of subterranean waters», «Concerning the shape of ships». For his treatise «On the motion of a solid with hollows filled with a homogeneous fluid» he was awarded the Professor Braschmann Prize in 1886.

Another paper, published in 1890 in the «Papers of St. Petersburg Academy of Sciences» under the title «On the hydraulic shock in a water pipe» (Water Hammer), made his name well known abroad. In this paper Joukovski gives a comprehensive theory explaining the accidental bursting of water mains which occurred in Moscow and in many other cities of Europe at the end of the last century. This theory takes into account the elasticity of water and of the material of the pipe, and investigates the arising pressure waves. The paper has been translated into all European languages, and its results are incorporated in all textbooks of hydraulics.

To these investigations were soon added others concerned with pos-

sibilities of man's flight. Several of his papers discussed the theory of the aeroplane, which was then not yet in existence. He also began the study of air-screws. His well-known paper «On the soaring of birds», published in 1892, reported the results of his theoretical study of flight trajectories of birds and aeroplanes, and predicted the possibility of describing a loop in the air. It was not until 20 years later that a Russian pilot P. N. Nesterov actually performed this feat.

In 1906 appeared his paper «On bound vortices», which opened a new era in the development of aerodynamics. It explained the causes underlying the formation of the lift on an aeroplane wing and gave an accurate formula for its computation.

He showed that from the aerodynamical point of view the wing can be compared to an imaginary vortex, and that the lift upon it is equal to the product of the density, the air velocity and the intensity of the vortex.

«Joukovski's formula» is considered now one of the most fundamental in aerodynamics. Upon it is based the design of aeroplane wings, air-screws, fans, wind engines and of many other machines utilizing the motion of air or water.

Joukovski always expressed himself emphatically for the importance of the experiment. He was the founder of our first aerodynamical laboratory. In 1902 he built for the benefit of the students of the Moscow University a small wind tunnel, the first in Russia.

Under his direction in 1905 was created the Institute of Aerodynamics at Kuchino, whose work has not lost its value to this day.

A remarkable rôle in the development of our aviation was played by the Aerodynamical Laboratory of the Moscow Technical College, built by the students themselves under the guidance of Joukovski in 1910. The undergraduates which had gathered together around Joukovski in his «Air-navigation circle», carried on in this laboratory an extensive experimental research on various problems of aerodynamics and aircraft design.

The period following the establishment of this laboratory is marked by the classical work of Joukovski on the theory of wings and by the creation of the «Vortex theory of the air-screw».

The wing theory developed by Joukovski is now one of the most important chapters of aerodynamics, and the theoretical wing-profiles proposed by him have come to be universally known as «Joukovski's wings».

In this theory the streamline flow past a wing is obtained by means of a very fine mathematical method—the conformal transformation of

a flow past a round cylinder, which form of flow had been investigated theoretically a long time ago. This transformation distorts the circular cross-section of the cylinder as in a skew mirror and yields different shapes of Joukovski's wings.

The vortex theory of the air-screw stands as a striking example of what man can achieve in the practical sphere by a skilful application of the propositions of an abstract science. The abstract notions of aerodynamics such as circulation and velocity potential, vortex lines, surfaces of discontinuity *etc.*, are applied here to the solution of a purely practical problem, which is to work out a universal design of the air-screw. The analysis was carried out so ingeniously that all types of air-screw of practical importance—propeller, helicopter, and wind engine—came within the scope of the derived formulae.

Careful laboratory tests have proved this theory to be in good agreement with the experiment. By now it is used in different modifications by air-screw designers all over the world. To the end of his life Joukovski worked persistently at his theory in order to improve it.

Of great value to the aircraft engineer is also the method worked out by Joukovski for the calculation of the flight characteristics of new aircraft types.

He was remarkably successful in tackling problems connected with the stability and durability of aeroplanes. His contribution to ballistics and the theory of explosion waves is likewise very important.

Quite astounding by the wealth of ideas it contains is his work «Aerial bombardment» published in 1916. In it he gave, besides the solution of the ballistic problem, a very interesting classification of bomb sights.

Joukovski composed many textbooks, which became classic and are still used in our Colleges and Universities.

First place among them belongs to «Theoretical foundations of aviation» containing his lectures at the Moscow Technical College. This book has been translated into French.

In his last illness, Joukovski continued his lectures and his scientific work. He died in 1921, dictating on his death-bed a new course of Analytical Mechanics.

4. S. A. CHAPLYGIN

After Joukovski's death the leadership of his scientific school passed to Sergei Alekseevich Chaplygin, who was a pupil and a personal friend of Joukovski. Being more of a mathematician than an engineer, Chaplygin was more inclined to analytical methods and rigorous theories. In this respect he was rather a follower of Liapunov than of Joukovski, since the latter developed his theories on the basis of experiments and strived to make at the outset of his investigations experimentally justified simplifications.

Nevertheless it was Chaplygin who created with the help of other Joukovski's pupils our first powerful experimental aviation centre—the Central Institute of Aero-Hydrodynamics in Moscow, and started it on its work.

Thanks to his energetic efforts and his ability as an organizer the Institute's principal laboratories were ready in 1926, and intensive work to serve our aircraft industry commenced in them.

The following words from an introduction to the «Papers by S. A. Chaplygin» adequately appraise his work in mechanics and mathematics: «By the importance of the problems dealt with, the elegance and the generality of the new methods applied to their solution and the completeness of the results achieved, the work of Sergei Alekseevich Chaplygin is classic and represents an invaluable contribution to Russian mathematical literature».

The earlier papers by Chaplygin were devoted to the study of the general problems of theoretical mechanics. He occupied himself, for instance, with difficult mathematical questions connected with the

rolling of a solid body over a surface and the motion of a solid with one point fixed.

Chaplygin's principal work, however, was concerned with fluid dynamics. His first published paper «On certain motions of solids in a fluid», written in 1894, won him the Professor Braschmann Prize and the gold medal of this Academy.

An outstanding work of Chaplygin is his doctoral thesis «On gas streams» published in 1902. The method applied in this dissertation for solving difficult equations of gas dynamics consists essentially in the introduction of two new variables: the current velocity and the angle of its direction. He thereby obtained a set of absolutely precise solutions, whose generality, however, is restrained by the assumption that the current velocity is everywhere less than the velocity of sound. These results found no application till 1935, when they began to be widely used by foreign scientists. The paper was discussed at International congresses and conferences. The increased flight speeds of modern aeroplanes no longer allowed the air to be considered as an incompressible fluid. Hence the interest, which this paper aroused all over the world.

Chaplygin's investigations in the theory of wings are a classic work, containing an analytical generalization of the geometrical results obtained by Joukovski. The first paper of the series was entitled «Pressure of a plane flow on obstructing bodies». It was written in 1910. This paper contains a conclusive investigation of a flow past a wing for an ideal fluid, as well as formulae for the calculation of the lift and moment.

In the paper mentioned above, and in a series of subsequent papers, Chaplygin applied the same method of conformal representation as Joukovski, but proceeded from a still simpler assumption, a flow along a plane. He achieved a remarkable virtuosity in the application of the theory of analytical functions to the problems of hydromechanics. He studied the envelope of all forces acting on the wing, which is now called the metacentric curve. He also succeeded in bringing new types of aerofoil within the realms of the theory. Among these types the wings of Joukovski form a particular case.

It is of interest to point out that in studying aerofoils Chaplygin discovered that in certain cases a longitudinal cut in the wing in the direction of its span might act to advantage. In 1910—1912 such wings were put to the test in the aerodynamical laboratory of the Moscow Technical College, and the results were favourable. At present this method is often used in aircraft design.

During the last years of his life Chaplygin paid great attention to the unsteady motion of the wing and made several interesting investigations in this domain. He also solved a number of involved mathematical problems concerning complex types of wing.

The mathematical rigour and elegance with which Chaplygin treated his problems have been much admired in and outside this country. And many of those among us who have attained to distinction by their theoretical contributions were once his pupils.

5. RECENT WORK IN AERODYNAMICS

The period after the Revolution is characterized by a wide expansion of research in the domain of aerodynamics. Particularly great is the amount of work done during the war and in the years preceding it. By now the number of contributions to theory and experiment has run into hundreds.

A feature distinctive of this period is that many young students have joined in theoretical and experimental research. Problems with which solitary scientists coped single-handed before, are now attacked collectively by strong bands of workers. And it is to the lasting credit of our educational institutions that they found means to prepare so many qualified people for research work in aviation.

Important successes have been achieved in this country in experimental aerodynamics. Research is conducted on a large scale in a number of aerodynamic laboratories. The Central Institute of Aero-Hydrodynamics created a unique equipment. In the wind tunnels of the Institute two-engine aeroplanes can be tested in full size. In other tunnels velocities can be obtained many times exceeding the speeds of modern aeroplanes. The tunnels are equipped by automatic appliances instantly registering with great precision the forces acting on the aircraft.

Thus, we were enabled to put aerodynamical research on a completely new basis and turn out aircraft which proved superior to that of the enemy.

The central problem of aerodynamics directly connected with the military use of aviation is to increase the speed limit. Its solution depends upon our taking into consideration the compressibility of the

air, which is known to have a considerable influence even on an aircraft moving at comparatively low speed. With high speeds it is a factor of prime importance. This property of the air has also been forced upon our notice by theoretical meteorology. Important results have been obtained in dealing with these questions, which come within the scope of a separate science described in this country as gas dynamics. Many difficult problems of this science have been successfully solved by the young generation of Soviet workers.

Credit for having initiated a new trend in gas dynamics belongs to A. A. Friedman. He was able to show that many statements of classical hydrodynamics break down in the case of gases moving with great velocity. The theory of vortices so widely used in investigations concerned with small velocities, required a series of corrections before it could be applied to the motion of gases. Friedman succeeded in making the equations of motions yield to analytical methods through the introduction of certain characteristic vectors in place of the usual vectors of velocity and vortex. This enabled him and his pupils to study the formation of vortices in the atmosphere, the meteorological fronts, the waves at the surface of separation between warm and cold air masses and other problems.

After his death in 1925 his investigations were continued by Nikolai Evgrafovich Kochin who eventually became one of the leaders of the theoretical school in Soviet aerodynamics. Kochin was a follower of the abstract mathematical direction in aerodynamics, created by Liapunov, Steklov and Friedman. He was a brilliant analyst and spared no effort to propagate among us the methods of vectorial and tensorial analyses, which are well adapted to the solution of problems of gas dynamics. The two volumes of Theoretical Hydromechanics, in which his share is that of an author and editor, are much used in this country as reference-book by all concerned with aerodynamics.

We owe to Kochin the solution of a number of important problems in theoretical meteorology. His paper «On the stability of Morgulis' discontinuity surface» is now incorporated as a fundamental chapter in all textbooks of meteorology. These surfaces separate cold air masses from warm, and their intersection with the Earth's surface gives rise to the so-called fronts. Kochin studied the movements of these fronts and investigated the conditions of their dissolution.

His followers, particularly Ilya Afanasievich Kiebel, developed this theory to such an extent as to make it practically useful in meteorological service. Owing to Kiebel, Soviet meteorology ranks among the first in the world. Our weather forecasts are no longer a mat-

ter of chance guessing, but rather a result of scientific calculation.

Important investigations in gas dynamics, connected with the development of high speed aircraft, were carried out by Sergei Alekseevich Khristianovich. He studied the flow past a wing at high velocities theoretically and experimentally and established several relations which facilitate the design of wing-profiles for high speed aeroplanes. He is the author of an ingenious method whereby the adequate wing-profiles for a high-speed flight can be derived from their test results at low speeds. «Khristianovich's curve», on which this method is based, is well known to all aircraft designers. In the vicinity of the wing even if the speed is not very high, the so-called local Mach's waves arise, which are standing sound waves. The formation of these waves is accompanied by an abrupt increase of resistance in all parts of the aeroplane, as the wings, the fuselage, *etc.* The problem of increasing the speed limit depends for successful solution upon a precise knowledge of the properties of these waves and creation of such forms of bodies as offer the least resistance.

Some remarkable results obtained at the Central Institute of Aero-Hydrodynamics immediately proved their value in war aviation and artillery. They are due to the work of S.A. Khristianovich, F. I. Frankl, J. M. Serebryiski, V. G. Galperin and others.

The resistance of the wings and the fuselage depends not only on the forces of elasticity, but also on the friction of the air against the surfaces. These questions have been widely explored by our scientists. The names of L. G. Loytzansky, A. A. Dorodnizyn, I. V. Ostoslavski, K. K. Fedyaevski, B. T. Goroshtenko and P. P. Krasilshnikov may be mentioned in this connexion. They not merely succeeded in giving a rather clear picture of the vortex motion at the surface, but also found adequate («laminarized») shapes for the wings and the fuselage, remarkable for small frictional resistance.

The problem of the laminar boundary layer was also treated with reference to the energy balance by L. S. Leibenson. V. P. Vetchinkin worked out a number of important problems in aircraft dynamics, a science concerned with the motion of aircraft on the ground and in the air.

Much attention has also been paid to stability and maneuverability of aircraft. Numerous papers discussed this subject from the theoretical and practical point of view, and extensive experiments were carried out in wind tunnels and in flight. In the matter of design we have gone a long way toward establishing certain criteria and norms of stability and maneuverability of aircraft for various services.

This accounts for our success in building planes that combined high

speed with high maneuverability such as the «Yakovlevs» and the «Lavochkins». They secured our domination in the air. The heavy «Focke-Wulffs», these flying «flat-irons» which the Germans built lately, are by far inferior to our planes in fighting qualities. We also dealt successfully with the problem of maneuverability loss in flight. Effective measures have been evolved by A. N. Jouravchenko and V. S. Pyshnov to prevent the occurrence of these fatal phenomena.

Good progress has been made in developing the theory of vibrations of aeroplanes, as well as the practical aspect of the matter. With the advent of high speed aircraft a few years ago the aviation engineer found himself unpleasantly confronted with a grave problem—the occurrence of auto-vibrations, or the so-called flutter of the wings. These vibrations arise quite suddenly and almost always result in the plane falling to pieces in the air. One time the flutter prevented the designer to raise the flight speed.

M. V. Keldysh in collaboration with E. P. Grossman set forth an exact theory of these phenomena, with the result that our aeroplanes as designed at present are safe from flutter or any other kind of autovibration.

In some connexion with vibrations stands the work of our scientists on the unsteady motion of the wing. In this direction worked already S. A. Chaplygin and particularly N. E. Kochin. The latter must be given the credit for being the first to find an exact solution of this problem, though only for a wing whose horizontal projection is a circle. V. V. Golubev solved the problem approximately on the basis of the vortex theory and worked out a complete theory of the flapping wing.

A series of books and articles by V. P. Vetchinkin, G. H. Sabinin, D. V. Khalesov, by the author of this paper and many others, have been devoted to the dynamics of the air-screw. In this domain we have held the leadership since Joukovski's times. With the gigantic wind tunnels of the CAHI at our disposal, we are now able to study the work of propellers in life-size under laboratory conditions, and to improve rapidly upon our designs.

The synthesis of theory and practice, which is a traditional feature of this Academy, is reflected in the list of active and corresponding members, working with the Section for Technical Sciences.

This list includes the names of our distinguished aircraft and motor designers. A. N. Tupolev, who is a pupil of Joukovski, has been active for many years in the domain of aerodynamics. The wing-profiles which he used in designing his world-famous planes are likewise his own creation. Hero of Socialistic Labour A. S. Yakovlev, the builder of our incomparable «Yaks», the most aerodynamical planes in the world, is also connected with the Academy.

6. CONCLUSIONS

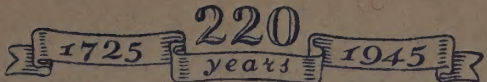
This report, though short and incomplete, reveals the leading rôle of our Academy in the development of aerodynamics. The contribution of its workers to this science is fundamental.

Euler's equation, Bernoulli's theorem, Joukovski's theorem, Chaplygin's method, Joukovski's wings, the vortex theory of the air-screw,—all that is for ever an integral part of aerodynamics.

The work of Friedman, Kochin and Khristianovich has thrown revealing light on many problems of gas dynamics and opened up the possibility to develop a consistent theory of the dynamics of the atmosphere. It has also facilitated the solution of problems connected with the design and construction of high-speed aeroplanes.

Our experimental bases, particularly the Central Institute of Aero-Hydrodynamics, are provided with an equipment which is unique in the power and precision of its instruments.

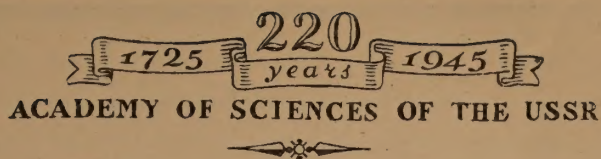
And in the days of the 220th anniversary of the Academy we may state with satisfaction that the work of its members in the field of aerodynamics has been turned to good account by the country in the creation of our glorious Stalin Air Force, which has played so important a part on all our war fronts.

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ACADEMY OF SCIENCES OF THE USSR

**P. L. CHEBICHEV
AND THE RUSSIAN SCHOOL
IN MATHEMATICS**

REPORT DELIVERED BY
B. N. DELAUNAY, *Corresponding Member of the Academy,*
TO THE 220th ANNIVERSARY MEETING
OF THE ACADEMY OF SCIENCES OF THE USSR

ACADEMY PRESS
MOSCOW 1945 LENINGRAD



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The rapid rise of this Academy, since its foundation in 1725, to the rank of world's leading centre of mathematical thought was decided when it was barely two years of age by the invitation in 1727 of Leonhard Euler, one of the greatest intellects in the history of mathematics. Euler came to us from Switzerland as a youth of nineteen, little knowing at the time that Russia was to become his adopted motherland and that he was to make his home on her soil. His invitation to the Academy had been arranged by Daniel Bernoulli, his friend, whom he later succeeded in the chair of mathematics. Through the Bernoulli family Euler was connected with those who were continuing the work of Newton.

There is scarcely a domain in mathematics in which no important discovery is due to Euler. Even the college student of to-day encounters in his textbooks now an Euler formula, now an Euler angle, then again an Euler equation and so on. And in the works of Leningrad mathematicians his influence can be traced down to the present date.

Among the names which rose to distinction during the period stretching between Euler and Chebichev that of Ostogradski, who was also a member of this Academy, should be mentioned in the first place. He, like the English mathematicians Green and Stokes, has made important contribution to the theory of multiple integrals. Those years, too, saw the birth of non-Euclidean geometry. Its creator Nikolai Ivanovich Lobachevski lived and worked at Kazan, thereby making this provincial town and its university the abode of one of the greatest geometers the world had ever known.

Euler, Ostogradski and Lobachevski are the names that mark the initial brilliant stage of Russian mathematics.

In the forties of last century the Academy entrusted to one of its members, Bouniakovski, the preparation of Euler's arithmetical works for the press. Bouniakovski invited P. L. Chebichev, then a young man, to assist him in this undertaking. Thus, toward the close of the forties we find Chebichev absorbed in the study of Euler's arithmetical investigations. In 1849 appeared his doctoral thesis, «The theory of congruences», which for a long time remained the only Russian textbook in the theory of numbers. It includes as a supplement his famous first memoir on primes entitled «On the determination of the number of primes not exceeding a given quantity». In 1852 appeared his second memoir on primes, the «Mémoire sur les nombres premiers». These two papers at once placed Chebichev among the greatest scientists of the world.

Just what was his achievement? Everyone knows that among the ordinary positive integers some, as 4, 6, 8, 9, 10, ... are composite, and others are prime, *i. e.* not decomposable into a product of smaller factors, as for instance 2, 3, 5, 7, 11, 13, 17, ... The primes are in the nature of bricks from which all integers can be built by multiplication. It has been known since Euclid that the number of primes is infinite, but the way in which they are distributed in the sequence of all integers remained completely unknown until recently. Chebichev was the first after Euclid, who found the right approach to the problem of primes and obtained important results. He showed that the number of primes not exceeding a given quantity x is approximately equal to $x/\log x$.

It is tempting to draw an analogy between the rôle played by Lobachevski and Chebichev in the history of mathematics. Both were destined to succeed where a period of 2000 years had been not long enough for successive generations of mathematicians to make a headway. Lobachevski went far towards lifting the veil from the foundations of geometry, and Chebichev made a decisive advance in that difficult question—the distribution of primes.

Nor was this all his achievement. His range of interest was very wide. A paper on the theory of probabilities is followed by one on integral calculus, after which there appears a paper on primes, then a paper on the theory of mechanisms, and so on. In this respect Chebichev may be compared to the great classics of this science: Euler and Lagrange.

But it is perhaps his work on the approximate representation of functions that stands out as the most important and original. Its subject matter is this.

Having to deal with a function $f(x)$ of a variable x , can we substitute it with a simpler function of x differing little from $f(x)$? To put the

question more definitely, can $f(x)$ be replaced by the simplest function of x —a polynomial of the first, second, third, or, in fact, any degree that may be useful to us? The question is thus to give the nearest approximate representation of a given function by a polynomial of a given degree. It is an old method, used extensively by Bernoulli, Euler, especially by Newton; and many other mathematicians antecedent to Chebichev had recourse to it. But they either developed the given function into a power series to be able to find polynomials deviating least from $f(x)$ in the neighbourhood of a given value of x , or constructed, by means of interpolation formulae, the polynomial precisely equal to $f(x)$ for some separate values of x , but remained in the dark as to its deviation from $f(x)$ at all intermediate values of x . It was left to Chebichev to propose and for many cases to solve the following important problem; given a function $f(x)$ within a fixed interval of values of x from a to b , to find among all the polynomials of a given degree the one whose maximum deviation from $f(x)$ in the above interval is least. Even in the simple case where the given function $f(x)$ reduces to a constant (for instance 0) and the approximating polynomials have a fixed coefficient before the highest power of x , the theory proved to be not at all trivial. The required polynomials are then the so-called Chebichev's polynomials «of least deviation from zero» in the given interval. Their graphs may be obtained by winding a paper on which a sine-curve is drawn on a circular cylinder, and projecting the curve onto a plane passing through the axis of the cylinder. Among other things Chebichev applied these results to the perfection of a mechanism called «Watt's parallelogram», which served in the earlier steam-engines to control the rectilinear motion of the piston-rod.

Great importance was attached by Chebichev to methods of approximate computation. His paper on mechanical quadratures served as a point of departure for a number of Russian works on approximate integration.

In one of his public speeches Chebichev said: «The closer contact between theory and practice has yielded most desirable results. And all profits are not on the side of practice: the sciences, too, have been favourably affected by this alliance». Chebichev created the theory of polynomials with least deviation from zero in attempting to solve a problem in the theory of mechanisms.

Another unmistakable tendency in Chebichev's work is that he regarded no mathematical problem as settled unless its solution had been reduced to a method suitable for computation, or to what the mathematician describes as algorism.

Both of these views were in a great measure assimilated by Chebichev's pupils.

Chebichev initiated a trend in mathematics which has survived to this day and is called after him or else by the name of St. Petersburg School. It is one of the strongest and most original mathematical schools in the world. Its outstanding representatives were: A. N. Kor-kin, E. I. Zolotarev, A. A. Markov, G. F. Voronoi, A. M. Liapounov, V. A. Steklov. At present it includes the bright names of A. N. Krylov, S. N. Bernstein and I. M. Vinogradov. Of the mathematicians that have studied in Leningrad nearly all must be classed with this school, including those now living in Moscow.

Remarkable results have been produced by its disciples in the theory of probabilities. The crisis of this theory, which had arrested its development 100 years ago, was overcome by the genius of Chebichev; and among his followers Markov, Liapounov and Bernstein are entitled to a great deal of credit for the part they have played in bringing this branch of mathematics to its present status. From the narrow domain of hazard games the theory of probabilities has reached far out into the realms of natural science. It was also furthered on this way by two Moscow mathematicians—Khintchin and Kolmogorov, who brought to bear on the subject the influence of the highly developed axiomatic and set-theoretical direction of the Moscow school.

It would carry me far beyond the limits of this address if I made an attempt to describe the profound and original investigations of Kor-kin, Zolotarev, Markov, Voronoi and the more recent disciples of the St. Petersburg school in the theory of numbers, the theory of differential equations and geometry. What appears to be an easier task is to explain the essence of Liapounov's work in hydromechanics.

It was Chebichev who proposed to Liapounov the following problem:

What shapes, beside the ellipsoidal one, can assume a rotating fluid whose elements are subject mutually to Newtonian attraction. A profound investigation of the problem, extended over many years, led Liapounov to a brilliant solution of the whole question of equilibrium shapes, which plays an important rôle in the study of heavenly bodies. He found among other things that George Darwin, the English astronomer, son of Charles Darwin, was wrong in believing himself to have proved the stability of the pear-like shape. Liapounov showed that this shape, as a matter of fact, was unstable. He had treated the question of stability as a rigorously stated mathematical problem, which has not been the case with Darwin. This may serve to illustrate a

rather trivial truth that no one should expect his results to be sound physically if he has taken no due care to have his premises translated correctly into mathematical terms.

Of the later workers A. N. Krylov attained to a world-wide fame by his theory of ship's movements in a sea-way.

Another member of this Academy, S. N. Bernstein, made deep inquiries into the theory of differential equations, the theory of probabilities and the theory of approximate representation of functions. He applied Chebichev's idea of approximation polynomials deviating least from a given function to a classification of the functions of a real variable itself. Since Cauchy three principal directions have existed in the theory of functions: the theory of functions of a complex variable, the set-theoretical study of functions and the constructive theory of functions, created essentially by Bernstein.

In the theory of numbers a long series of papers, remarkable for depth, force and skill, were produced by Vinogradov. They were crowned in 1937 by his famous proof of Goldbach's hypothesis, that every odd number is either a prime, or the sum of three primes. The work of Vinogradov upholds the arithmetical traditions of Chebichev.

Works produced by the school of Chebichev are sometimes slow to attain their deserved influence outside this country. But sooner or later they become the object of an attentive study by foreign mathematicians, who derive from them inspiration and a wealth of new thoughts. As an example, one may point to the fact that the theory of minima of indefinite quadratic forms put forward by Markov, remained for a long time unnoticed.

At the beginning of the present century the St. Petersburg school developed several branches. One was initiated at Kharkov by Bernstein, another at Kiev by Grave and by Nikolai Mitrofanovich Krylov, whose work lies in the domain of the theory of non-linear differential equations. Later one more branch was established at Tbilissi by Mouskhelishvili, and another again at Kazan by Chebotarev. These workers spread to the respective mathematical centres the high culture and traditions of the Euler-Chebichev school.

It is owing to this school that our mathematics now holds a leading place in the three following domains: theory of number, theory of probabilities and theory of approximate representation of functions.

In Moscow things took a different course. Leaving aside the magnificent work in theoretical mechanics due to Joukovski and Chaplygin, it must be admitted that no first-class mathematics was in existence in Moscow until the second decade of this century. It was N. N. Lusin who

began to cultivate on Russian soil the interest of the French in the theory of functions of a real variable and the theory of sets. Although in these domains the Moscow mathematicians failed to create a new school comparable to that of the French (Lebesgue, Borel, Baire), they excelled in the technical refinement of their research. The investigations of Lusin and his disciples rank among the most important contributions to the theory of sets. On the basis of this high set-theoretical culture the Moscow mathematicians Urysson, Alexandrov, Kolmogorov, Pontrjagin have achieved fundamental results in topology—the most modern domain of geometry. We owe to them leadership in modern topology, which we only share with the American school (Alexander, Lefschetz, Veblen). Highly developed in Moscow is also modern algebra.

In spirit the mathematics of Moscow is a counterpart to the St. Petersburg school. The Moscow mathematicians are not so much bent on the consideration of concrete problems and algorithms, as they strive to have their theories worked out in the most general form, with the logical frame brought to light. And they give special attention to a perfectly flawless logical construction of all their definitions and proofs. It is one of the most modern mathematical schools and by the high order of its achievements in these domains can be only compared to the Princeton School of America. Interlacement of research between these two schools is a rather frequent occurrence.

The All-Union mathematical conferences held in the years 1927, 1930 and 1934 are responsible for the more intimate contact which now exists between the mathematicians of Moscow and Leningrad. To the same effect, and even in a greater measure, has contributed the transfer of the Academy of Sciences to Moscow.

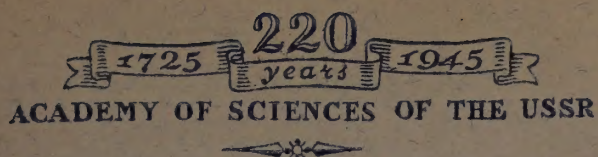
The interest of our scientists in the problems of mathematical physics and the applications of mathematics—the problem of vibrations, the wave theory, the theory of the compressible fluid, the theory of elasticity—was never so intense as it is at present. Many mathematicians and physicists in this country are engaged on the problems of non-linear oscillations which are of so great an importance for radio-engineering and certain domains of mechanics.

In Moscow as well as in Leningrad important researches in mathematical physics and other fields of classical analysis have appeared within recent decades. Some of them border upon theoretical mechanics. These are Liapounov's investigations on the stability of motion, mentioned above; Steklov's studies in mathematical physics; the well-known contributions of Chaplygin to mechanics and the theory of differential equations. In the twenties begins the penetration into work

on classical analysis of the modern ideas that have sprung up in the theory of functions, the theory of integral equations and in the domain of functional analysis. Methods of a qualitative study of classical problems in mathematical physics and the theory of differential equations are developed by Lavrentiev, Smirnov, Sobolev, and Petrovsky.

Looking to the past for features characterizing Russian mathematics at large, we see, first of all, the school created by the genius of Euler and developed further by Chebichev; then the young Moscow school that has risen by its side. Isolated towers the figure of Lobachevski, and last comes the above-mentioned work in classical analysis with its applications, which forms a sphere of union between the schools of Moscow and Leningrad.

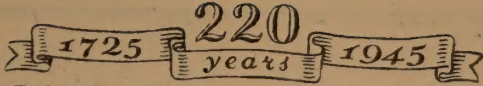
Of course, a further synthesis of the two main directions, especially in the domain of applied science, is most desirable. Nevertheless, the very existence of these two powerful independent streams of mathematical thought is in itself an achievement worthy of this great Country of ours.



A NEW THEORY IN LINGUISTICS

REPORT DELIVERED BY
I. I. MEŠČANINOV, Member of the Academy,
TO THE 220th ANNIVERSARY MEETING
OF THE ACADEMY OF SCIENCES OF THE USSR

ACADEMY-PRESS
MOSCOW 1945 LENINGRAD

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This theory owes its origin to a new Marxian methodological approach to language phenomena. Its appearance was preceded by a long and fruitful period during which a number of schools of the XIX century succeeded one another. Some of the hypotheses advanced by these schools, particularly in the field of historical comparative philology, won general recognition and served as a basis for the work of several generations of scientists. Many a hypothesis of essential significance, however, still remained a subject of controversy.

Language was recognized as a social phenomenon that was to be studied in its historical progress, and its relation to the principles of mentality was not denied. Yet these hypotheses advanced by progressive scientists of the last and the beginning of the present centuries, were mostly lacking precise formulation; neither were they applied to actual language research. The latter took largely the form of studies of language material within itself and by itself. This conception, as formulated by Professor F. de Saussure, the founder of the sociological school in linguistics, still remained in force.

Under these conditions neither the social factor operative in the development of language, nor its bearing upon mentality could be, or practically were duly approached in language research. They remained outside the scope of linguistics, and the latter was largely confined to its formal subject.

The wealth of language material in its variety was in the majority of cases studied in its purely formal aspect. This external, formal aspect, although subject, it is true, to a rather profound investigation, remained the basic and nearly unique object of linguistic research. Throughout the history of man, however, language has served as an

indispensable instrument for exchanging thought. It reflects the life of man in all its diverse aspects; its structure bears the imprints of the most diverse requirements of the human society to which it owes its origin and development. All these needs, springing out of economic relations and social activities, as well as those suggested by mental operation, are reflected by the language.

None of these manifold and subtle variations can possibly be perceived unless a thorough knowledge of their external expression is attained. And this cannot be done without a perfect knowledge of the morphology, without a clear understanding of the causes responsible for a given word structure, or a given mode of expression of a thought. Such an approach to the language in its formal aspect makes an explanation of this aspect imperative. And this can be attained by finding out the social meaning underlying each linguistic form and its functional derivation, operating not only with the language as a whole, but with any of its individual manifestations, such as separate words, their morphology, and their arrangement in sentences. If interpreted in this way, language cannot be studied within the range of its proper material alone, neither can linguistics remain a self-sufficient science confined within its boundaries. In order to claim to a place among social sciences linguistics had in the first line to adopt the methods of historical materialism. And this is the way that was chosen by Nikolai Yakovlevich Marr, Member of the Academy.

Marr's principal deserts consist in his efforts to make the science of language escape from those narrow boundaries within which it still was confined. What it needed was a wider scope of research, and this was fully realized by the founder of the new linguistic doctrine. According as he extended the limits of language science, Marr became deeply engaged in the study of the history of separate peoples; in the course of his study he had recourse to their manuscripts and other remains of their past history, as well as to their folk-lore and ethnography. By studying language along with this wealth of material he tried to inquire still deeper into the structure and regularities of the language; he tried to grasp that which escaped to those who confined themselves to a merely formal study of the various phenomena of human speech. But, although engaged in ethnological and archaeological research, Marr never ceased to be the linguist he had primarily been, and he has enriched the science of language by an entirely new interpretation of many of its phenomena.

By recognizing language as a social phenomenon, the historical analysis had necessarily to be carried out on a wider scale and worked

out in more detail. And this resulted in a wider scope of linguistic research, in a larger number of tongues studied. Even within the boundaries of the USSR the languages display a high degree of variety as to the structure of speech. They all differ from one another, and not only in their stems and in the structure of the sentence, but even in the tone of the sounds they make use of. Notwithstanding this, all of them, irrespective of their degree of development, may claim to equal rights as representatives of human speech, and their existence is justified by the historical process in the course of which they came into existence. The diversity of speech owing to which they do not fit within a structural scheme common to all languages has also been brought about by the historical process. The languages differ greatly both in their vocabulary and in the order of word arrangements legalized by spoken and written speech. This diversity had also to be given historical interpretation. And here greatly helpful appeared the interpretation of the historical process as suggested by historical materialism. According to the latter, language did not develop spontaneously, but was created by groups of men, united by their labour activity and by the constant need of intercourse. In the course of its history human society went through a number of fundamental changes in its economy and social order. And the development of language could not fail to be affected by them.

The primitive community with its tribal organizations could not have involved the important associations that formed at later periods. Dispersed groups comprising but small numbers of men were creating and developing languages of their own. The communication between the various tribes was a rather limited one, and there was no need of a unified speech. No languages common to great peoples could arise until different state bodies were organized; accordingly, national languages owe their existence to the differentiation of nations. Thus, the development of language as viewed in its historical aspect was a process of fusion of multiple diverse tongues into a smaller number of more extensive languages, rather than a process of disintegration of a single strong language into a number of minor ones. The development of speech obeyed a number of historical regularities common to all languages.

This interpretation of the historical process of speech development which is the only correct one, is essentially at variance with the historical interpretation that prevailed in the old philology. Studying languages in their formal aspect only, and disclosing considerable likeness in many of them if so considered, the linguistic schools of the XIX century reduced the variety of forms of different languages to their single

primary source. On its basis a single parent-language was reconstructed for each language family. The comparison of languages belonging to different systemic groups went along a similar line, and thus endeavours were made to find a parent-language common to the whole mankind. No such language could, of course, be discovered in nature, nevertheless many scientists were engaged in its theoretical reconstruction. The history of language built in this way diverged materially from the history of the development of social forms retraced by exact methods. And although language had been recognized as a social phenomenon, this fact by itself had absolutely no influence upon the work of the generation of linguists who had been Marr's antecedents.

The parent-language scheme worked out by the old linguistic school was an important impediment in the comparative investigation of the languages belonging to different systems. They all were forced to fit within a given parent-language scheme; and languages of different systems were thus found to be separated from one another by insurmountable barriers. The primary source of language thus theoretically restored was presumably spoken by a single people; this people was supposed to inhabit a definite territory, its parent-country. Hence a parent-language with a parent-country of the Indo-European parent-people, as opposed to other centres inhabited by peoples speaking other languages. Schemes of this kind, if adapted to a single people, do ultimately lead to the development of a racist theory. This conception was objected both in this country and abroad by a number of progressive linguists, especially at the recent international congresses that took place before the Great National War. Marr broke off from this conception as early as in the twenties.

In adopting the method of historical research as suggested by historical materialism, Marr did not altogether renounce to the method of comparison. This method could well be applied, for even such languages as belong to different systems have many features in common. But this similarity should be accounted for by the common principles of mentality rather than by a unique primary source. Representatives of peoples speaking different languages may respond to environmental conditions in a similar way, although their impression will be expressed in different words and in sentences arranged in a different manner. Semantic likeness may in this case co-exist with dissimilarity in the external form. Thus, for example, all languages make use of subjects and predicates. But the former may be expressed by different forms of the nominative case, or even by different cases, while the verb may, according to the language, either be subject to inflection according to the person, or

remain unchanged (as, for example, in the Avarian and Lesghian languages). The resulting diversity in the structure of different languages does accordingly not preclude the possibility of retracing in separate cases the unique trend in the development of the process of speech. This uniformity of the process, which persists in spite of a high degree of diversity of its external manifestations, is not due to a common parent-tongue, parent-people or parent-land. The fact that the use of subject, predicate, noun, verb, *etc.* is common to quite remote languages does by no means testify to that all languages have developed from a common source.

Having adopted a different historical scheme and involved into comparison the most various languages, Marr has worked out his doctrine of the uniformity of the process of language development. He does not confine himself to desultory comparisons of facts taken at random, but operates with a systematic and thoroughgoing comparative analysis involving both manuscripts and spoken language. It is from the latter that a number of highly valuable observations could be derived. Thus, for example, at the time present some of the languages of the North Caucasus, whose written literature dates from a rather recent time, display in their modern speech a larger number of archaic forms than the most ancient written languages of Georgia and Armenia, which have created a long-yearred tradition of written literature. The languages of the North Caucasian peoples have therefore been used within the Soviet period as a valuable reference material for interpreting certain forms and structural peculiarities of the Karthvelian languages, even including the Georgian. By comparing in this way analogous language forms in two different languages, a clearer insight into either is facilitated. And the comparative method thus applied becomes an efficacious instrument in the hands of the linguist.

All that was said above goes fully to account for the interest now attached not only to the languages of the Caucasus, but also to those of the northern peoples, of Europe and Asia, at whose transformation into written languages we assist. We have the advantage of observing on live material the rapid progress of the rearrangement of a language. On the other hand, interest belongs also to the languages of the numerous Indian tribes of America, African negroes, peoples inhabiting the islands of the Pacific, though viewed at an entirely different angle. All these peoples have no written language as yet. Compared to the bulk of linguistic data, they yield an abundant material for the general history of language development, which is to be written in the future.

For the time being the material is not ready yet: many of the lan-

guages remain unstudied still. But the way in which they are to be approached has been worked out. The Soviet linguists undertook a detailed and thoroughgoing investigation of every individual language system; each of them has its typical features which are studied along with the phonic system of the language, the structure of the words and their arrangement into sentences. Much work had to be done before the study of these languages could be started. In the first line, one had to renounce to the routine methods developed during several generations of philologists brought up on the study of the classical languages. The science of language that developed during more than one thousand of years was based upon the classical languages; and the regularities inferred from their study were extended to the study of the structural features of other languages. This resulted in an erroneous interpretation of many forms of languages belonging to other systems.

This regrettable state of affairs is not denied by the progressive scientists abroad. It was openly declared by the French scientists A. Meillet and J. Vandryes, by the American scientist E. Sapir, and others. The French authors go as far as to admit that the textbooks adopted in the French colleges give no correct interpretation of the modern spoken French. The same holds true of the research in languages which do not belong to the Indo-European family. The scheme that had been worked out for the Indo-European languages was automatically applied to them. However, the uniformity of the processes of the development of different languages discussed above does not necessarily imply an identity of their morphology and syntax. Each system of languages has its specific features which have to be disclosed and studied.

The new linguistic doctrine is introducing essential correction in this case, too. The preceding philological schools considered the progress of a language within a single family of languages only. They succeeded in tracing the course of variation of forms, from a parent-language and up to the modern state of the languages derived from it. The progress of alterations that succeeded one another could be followed up within definitely set limits; as a result it appeared that languages referred to a definite family could never develop beyond the boundaries of this family. A language if so conceived may become extinct, but cannot pass into another system. Such was the concept arrived at by the philological science of XIX. Some of these conclusions persisted until a later period.

The new doctrine is no continuation of the linguistic theory referred to above. It implies essential corrections again. Everything is mutable

in language, since language belongs among historical phenomena. This is not denied by the new doctrine. But variations may differ as to their nature. By the sociological linguistic school of the West variations are considered as evolutionary phenomena succeeding one another. But the new linguistic doctrine has arrived at a conclusion based upon factual data that the changes which languages undergo in the course of their historical development are no evolutionary changes; they are fundamental shifts resulting in new qualitative formations. The shifts observable in a language are brought about not by the language itself in the course of its own immanent development, but are due to definite historical shifts in the social environment. For these qualitative linguistic neoformations Marr has coined the name of «stage transitions».

According as these transitions were traced more closely by the adherents of the new doctrine, the conclusion was reached that historical research in any language should necessarily be based upon the social history of the corresponding people. The language of a given people cannot take a definite shape until the people by which this language is spoken has assumed a definite social form, too. The moulding of the language might have proceeded along with the coming into existence of the corresponding people, but could not possibly precede it. It can hardly be assumed that the Russian language was already in existence, while there was no Russian people as yet. At the same time, the life of a people, the extent of its commercial and cultural relations, its intercourse with its neighbours, *etc.*, all this produces an influence upon the morphological and syntactic constructions. Languages spoken by peoples which are in contact with one another are likely mutually to influence one another. Occasionally amalgamation of languages may ensue, resulting in a new system of languages, or a new language. The latter may differ fundamentally from its predecessors out of which it developed. Thus, for example, a people that arose as a result of blending of several tribes develops a language of its own on the basis of crosses between corresponding tribal languages. The new language will differ qualitatively from the preceding tribal languages, while some of the tribal languages will become dialects, qualitatively distinct from their former condition. A dialect ceases to be a tribal language, becoming a new language formation in the composition of the people-language, *etc.*

Such fundamental shifts, resulting in a new qualitative formation, are traceable not only in the history of any language taken as a whole. They can also be observed in separate language phenomena within the total structure of the language. Numerous examples can be cited from any language, which go to substantiate this conception. As such may

serve all prepositions and postpositions affixed to nominal stems; here belong also the personal inflections that arose out of pronouns (as, say, in the French language), *etc.* While these post- and prepositions were still used as nouns, and the personal verbal endings served as pronouns, the whole structure of the language was different from what it is now. In order to retrace according to the wealth of words available the process of variation within a language as a whole, it is not necessary to look for a parent-language for it. The latter, be it even in the form of a theoretically reconstructed working material, would merely impede investigation.

Data that shed light upon the qualitative variation taking place in a language are supplied even by modern spoken languages. For the sake of example let us compare tribal languages possessing no written literature with written languages of peoples and nations. In the former case a simple, poorly developed order of the sentence is prevalent. Connected speech is attained in them by a succession of fragmentary phrases. Unlike this in the latter case we observe a wide development of complex co-ordinate and subordinate sentences. Accordingly, the former are poor in co-ordinative and subordinative conjunctions, and are utterly lacking relative pronouns, all of which have received wide development in written languages. This may also be interpreted as a symptom of stage divergencies taking place in this case in the syntactic structure.

Similar phenomena are observable in number of languages of the USSR. More than one people that until recently possessed no written literature have now developed written literary speech in their own language. Such a language which has still preserved the structure of unwritten tribal speech, undergoes changes affecting its most essential aspect, that of its syntax. Thus, for example, many languages of the northern peoples of the USSR (the Khanty and some others) have adopted the practice of borrowing connective conjunctions from other languages, largely from the Russian, *etc.* The syntax of those languages is suffering a definite shift. A qualitatively new basis is being placed under the structure of their sentences. Under the actual conditions the shift we observe is due to the inner requirements of the people, associated with the introductions of written speech and development of literary language, rather than to mere imitation or even influence. Traces of a sentence structure changed in this way may still be detected in the folk-lore. Consequently, within the limits of a single language we are able to trace separate moments of their stage transitions.

All that has been discussed above goes to substantiate the correctness of the statements advanced by the new linguistic theory, *viz.* that of the uniformity of the process of the language development, and that of stage transitions. The former assumption serves as a link between language and society, opening at the same time new prospects for far-reaching comparisons. The latter assumption, built upon the same foundation, permits of a clearer and more correct insight into the structure of the language investigated, and of the trend of its development. And this has to play an important rôle in compiling not only scientific grammars, but such grammars as are intended for educational purposes as well.

According as the new linguistic theory developed in this direction, laying particular stress upon the study of language under its social aspect, it gave also special attention to the relation between language and mental processes. This problem was more than once approached by earlier students. Many of them have pointed out the existence of interaction between language and the laws by which consciousness is controlled. There were even entire schools named after the logical or the psychological tendency of linguistics, respectively. Yet all the different conceptions bearing on the subject came largely either to an identification of logical categories with the grammatical ones, or else to a mere assertion that logical, psychological and linguistic categories should be referred to different orders. But the latter statement did by no means imply that language does not obey the regularities underlying consciousness. These regularities find their expression in the language, in the significance of the words it is composed of, in the structure of these words, their arrangement and the construction of the sentence. Neither human speech as a whole, nor any of its individual elements have arisen spontaneously: they are the product of a conscious activity of the human society. All these elements of language bear a definite signification, according to which language categories are differentiated. The latter comprise also the formal categories which are expressed in various grammatical forms. But these are no strictly formal categories either, for their form is saturated with signification.

The basic conception of the new linguistic doctrine is thus reduced to the assertion that it is a deep inquiry into the social meaning of all language phenomena (language and society), that is imperative for linguistic research; while in the expression of the social basis of a language consciousness is instrumental (language and cogitation). The external variety in the construction of speech and the diversity in the morphological and syntactic phenomena of the various languages are

underlain by a definite regularity; hence it can be inferred that the development of all languages is controlled by a single law (uniformity of the processes of language formation). One of these regularities which deserves special attention consists in the qualitative variation taking place in the course of the development process of languages as a whole and of their individual categories, and resulting in new qualitative formations (stage transitions). This process is traceable not only in the meaning of words, but in their morphology and arrangement in sentences. The morphology of a word as a speech-unit endowed with definite social signification cannot be understood unless studied along with its place in the speech. Hence the paramount import of syntax in language research.

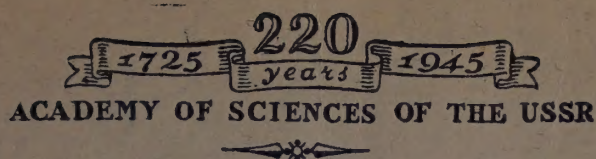
Syntax which until recently was given no sufficient attention has now to become a subject of thoroughgoing research. Neither phonetics when studied in its formal aspect, nor morphology viewed at the same angle can obtain the place they deserve unless their formal aspect is studied in relation to the formal aspect of the structure of the sentence. And the latter has recourse to grammatical forms in order to express those meaning relations that are assumed in a sentence by words expressing the signification of an achieved mental process.

The following step is to apply the fundamental features of language structure to the study of languages referring to different systems, which will lead to a discovery of valuable data that are still unknown. The vast spaces of this country offer quite an exceptional wealth of material on account of the large number of its languages of different structure (more than 140), and also of the intensified motive power stimulating language development. Among these should be cited: the development of written literature in such tribes as had none until quite recently, the extended influence of press and broadcasting, total primary education; the accessibility of secondary education, and above all the steadily increasing friendship between all the peoples of the Soviet Union, united into a single family. Under these conditions the linguist is allowed an ample scope for observation, study and meditation.

There are many languages still—even among those spoken by the peoples of this country—which have not yet been studied to a sufficient extent. Some of them were never before the object of close investigation. It is for the first time that grammars and dictionaries are now being compiled for the peoples who speak these languages. In the course of the study of these languages large numbers of young specialists have received their training; and these new specialists are working now in many towns of minor importance. They are scattered all over the ter-

ritory of this country which is the fatherland to so many peoples, and everywhere they are doing their piece of useful work. And a new generation of specialists make themselves ready to replace them. But demand still exceeds the increase in their number, and the hands available are not able to cope with the work which has to be done. A further increase in the number and progress in ability are urgently needed. And both have steadily continued throughout the Great National War.

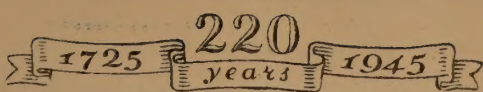
Within these years science has attained a flourishing state in the USSR. The specialists have rallied their ranks still closer, still stronger has become the link between the two generations, the old and the new; there is intimate contact between theoretical and practical work. And this is a guarantee for a further success of science in the USSR now that the Great National War has come to its victorious end.



THE RÔLE OF THE ACADEMY OF SCIENCES IN THE PROGRESS OF ORGANIC CHEMISTRY

REPORT DELIVERED BY
N. D. ZELINSKY, Member of the Academy,
TO THE 220th ANNIVERSARY MEETING
OF THE ACADEMY OF SCIENCES OF THE USSR

ACADEMY PRESS
MOSCOW 1945 Leningrad


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It was Lomonosov who in his «Discourse on Solidity and Fluidity of Bodies» spoke for the first time of the structure of particles or molecules: «Physicists, and chemists even more, are doomed to grope for their way in the dark, being ignorant of the inner intangible constitution of particles».

And it was not until 1862 that chemists, having renounced to the type theory and unitary conceptions, were able gradually to adopt new ideas, and thanks to the genius of Butlerov began to fathom «the inner intangible constitution of particles». Butlerov said that every atom by exerting a definite amount of its force of affinity was involved in the formation of the body of which it was a constituent part. «What I describe as chemical constitution is the distribution of the action of this force by which chemical atoms, acting upon one another directly or indirectly, are combined into a chemical particle. The chemical nature of a composite particle depends on the nature of the elementary constituents, their number, and their chemical structure». Butlerov had to defend his principle of chemical constitution against the attacks of Lothar Meyer and others who thought it fit to belittle his achievement. As with many other Russian scientists, his work was not always duly appreciated abroad, although in his papers the chemist finds a consistent exposition of the structure theory, free from any of those contradictions into which Würtz and especially Kékulé were liable to fall at the time.

The genius of Butlerov, which revealed itself at once in his theoretical and in his experimental work, attained its climax toward the sixties. It was a period of increased general interest in natural science, a period of fruitful activity of many an eminent worker in this country.

In 1867 Mendeléev thus characterized Butlerov's scientific achievement: «All his discoveries sprang from one idea—the so-called chemical structure; this general idea has created a school and made that his name will live in science for ever. In the fifties the revolutionary chemist Gerhardt overthrew the idols of old and launched this science upon a new path. He succeeded in doing so by renouncing to all thought to inquire into the inner atomic structure of matter... However, the wealth of new information made it soon necessary to go farther than Gerhardt». And this was done by Butlerov who aspired to penetrate into the chemical bonds of the various elements forming a molecule.

Upon his return from a journey abroad in 1861, Butlerov wrote: «There is scarcely anything new in the outlooks I have become acquainted with in Western Europe. Renouncing to affected modesty which is amiss in this case, I must say that within the last years these views have been more or less familiar to the workers of the Kazan laboratory who have no claim to originality; in fact, some of these views have been included in our educational repertory».

To give a better idea of Butlerov's personality it is well here to quote some passages from articles devoted to his memory by his pupils and contemporaries. Thus, A. M. Saytzev wrote: «By the high importance of the problems proposed, the elegance of the transformations discovered and the clearness of the results obtained the experimental studies of this great scholar may claim one of the foremost places among the chemical investigations of his time. In his classical «Introduction to a Comprehensive Study of Organic Chemistry» we encounter many a novel idea which explain a great number of important problems of theoretical chemistry in an elegant and simple manner. Butlerov's intense activity won him a high place in the esteem of the scientific world. A deep love of knowledge was the characteristic feature of his whole life». Another contemporary of Butlerov, the famous chemist Victor Meyer wrote: «During half a century the structure theory has been the guiding star for the vast majority of investigations in the field of organic chemistry; the impetus it gave to research was so powerful and lasted for so long a time as has been rarely the case with any other theory».

During the period from 1860 to 1886, the year of Butlerov's death, Russian chemistry rose to one of the foremost places in Europe; many notable chemists issued from this school. The leadership in chemical research in this country as regards quality and amount of experimental work done passed from Kazan to St. Petersburg. The students of the St. Petersburg University and the collaborators of Butlerov had the privilege of personal intercourse with the great chemist; they learned from

him how to work without becoming discouraged by failures. It should be noted that the young generation of students of that period, who attended other Russian Universities, as well as their professors, were well aware of the influence that the theory of chemical constitution created by Butlerov had upon the development of chemistry. They all were under the spell of that theory and had a high respect for its author; in a broad sense they all could be called Butlerov's disciples as to their chemical outlook, and this could not fail to tell upon the development of chemistry in Russia.

History has shown that after 1858 the development of the structural doctrine was given by Butlerov the right direction; his idea was that a single rational formula could be found for each body, and he eagerly looked forward to the possibility to derive the laws relating every chemical property of a body to its chemical constitution. Butlerov has greatly contributed to the further development and extensive application of the principle of chemical structure.

Kékulé's and Couper's early concept of the atomicity and valency of elements and the quadrivalency of carbon were developed by Butlerov into a consistent theory of chemical constitution, whose ardent champion he became. As early as 1861 he suggested the term «chemical structure» which was practically the subject of his paper «Some Considerations on the Chemical Constitution of Bodies» read before the Meeting of Naturalists in Speuer. In that paper he said that the chemical nature of a composite particle depends on the nature of its elementary constituents, their number and their chemical structure.

A shocking impression which Butlerov brought back from this meeting of German naturalists was that he had found them to be much in the habit of laying undue emphasis upon the word «German». «Indeed»,—told Butlerov later—, «I happened to hear some expressions like these: «We are not merely naturalists, but German naturalists», or «we are developing German science». One cannot help wondering what the authors of these phrases wished to express by them; would it not seem consistent next to speak not simply of laws of nature, but of laws of German nature instead».

Let us dwell upon Butlerov's fundamental works. In 1858, in Paris at Würtz's Laboratory Butlerov prepared methylene iodide which served him as the simplest original material for the synthesis of hydrocarbon ethylene. By the action of metal upon methylene iodide Butlerov expected to obtain the free methylene radical; it was found, however, that the nascent radicals immediately combined with each other, yielding as a result of interaction a more complex hydrocarbon, the ethylene. This

reaction is of great theoretical interest and requires new additional investigation in order to solve the problem—whether or not, and to what extent, other hydrocarbons—the analogues of ethylene—are formed in this process.

In 1861 Butlerov achieved the first synthesis of sugar from trioxymethylene by treating it with dilute alkali solution. His subsequent investigations are no less noteworthy, being the logical result of his creative foresight. Herein belong the following studies: synthesis of tertiary alcohols in which their isomerism with secondary and primary alcohols was demonstrated in a brilliant manner; dehydration of tertiary alcohols to yield unsaturated hydrocarbons; the isomerism and structure of the new hydrocarbons, investigated in connexion with the corresponding saturated hydrocarbons. Particularly interesting and important is the study on isobutylene and its polymerization to diisobutylene, and the explanation of the mechanism of such polymerization of hydrocarbons of the ethylene series. This investigation shows how closely Butlerov's studies were related to, and how instructive they were for those branches of chemistry which afterwards found expression in the industrial synthesis of the isooctane by hydrogenation of diisobutylene, in the use of unsaturated hydrocarbons for the production of rubber and in the alkylation of saturated hydrocarbons of the paraffinic series with olefinic hydrocarbons.

The synthesis of trimethylacetic acid and of its derivatives, in connexion with the elucidation of the structure of pinacoline, is another of his very interesting studies which went to develop and support his ideas on the constitution of organic compounds. In a short review it is impossible to cite all his investigations devoted to accumulation of experimental data on the evolution of chemical forms of organic compounds. Within a comparatively short period of Butlerov's activities Russian chemistry rose to one of the foremost places in Europe. Because of the theoretical importance of Butlerov's discoveries, his opinions carried authority within world-wide circles of chemists.

It has sometimes been said of eminent workers in science that they may be classed into two types: the classics and the romantics. Science needs both. By his wide outlook, the soar of his scientific thought and the high exactness of his experimental work Butlerov was at once the one and the other. Remember what he thought of the possible fluctuations in atomic weight; this indeed for his time was quite an unusual idea. «Everything depends upon experiment,—he says,—and on our finding a subtle means to detect the facts that I anticipate». And he quoted the words said by the illustrious French astronomer Arago: «Ill-judged

is he who denies that anything is possible beyond the realm of pure mathematics».

It was in this connexion that Butlerov discussed the possibility of deviation from the law of constant combining proportions, accompanied by no changes in chemical properties, *i. e.* the possibility of certain variations in the atomic weights of elements. Butlerov did not live to see the new era which enriched science with new physical methods of research and made it possible for the experiment to solve the problems that occupied his mind. Aston's studies have shown isotopy to be widespread in nature, and many familiar elements to be a mixture of isotopes.

Concerning the atomic theory Butlerov said in his «Fundamental Concepts of Chemistry»: «By the name of elements we understand such substances as could not yet be decomposed, but whose chemical complexity, though a complexity of a special order, is by no means improbable. In other words, the so-called «atoms» of certain elements may virtually be capable of chemical cleavage, *i. e.* they are not indivisible in their nature but simply defy splitting by the now available means, and remain intact in those chemical processes only which are actually known, although they may possibly be split in some new processes that will be discovered later». Such a rigorous interpretation of the concept of atom is in harmony with the spirit of exact science, with that of a true scientific theory. To use an old expression, Butlerov was of that superior wisdom which enables one to discern the shadows of the things to come. And he would often quote Bacon's words that truth is the daughter of time, and not of authority.

If we wish to give an idea of Butlerov's contribution to science, it is impossible not to mention another illustrious countryman of ours, N. N. Zinin who was Butlerov's teacher at the Kazan University. After a stay at Liebig's laboratory, Zinin returned home and took his doctor's degree for a thesis «On Compounds of Benzoin and on Discovered New Bodies Belonging to the Benzoyl Series». His principal works dealt with benzoyl compounds and with the conversion of bitter almond oil into benzoin. In 1842 he demonstrated the possibility of transforming nitro-compounds of hydrocarbons into amino-derivatives by reducing them with hydrogen sulphide. By means of this reaction he prepared aniline, phenylene-diamine and amido-benzoic acid. Then follow his other works on compounds of amines with mustard oils and on the synthesis of the volatile mustard oil. As early as 1861 Zinin reported on the possibility of introducing hydrogen into organic compounds: on hydrobenzoin as obtained through the action of hydrogen upon bitter

almond oil. But it is the production of aniline from nitrobenzene which made an epoch in the development of aniline dyestuff industry and gave Zinin a world-wide reputation. Zinin and Butlerov will remain in the history of chemistry as two great and famous representatives of science, the founders of the school of Russian chemists.

Zinin died in 1880. In Butlerov's article devoted to his memory we read: «The inspiring influence of my deceased teacher, which stimulated our scientific zeal, was appreciated by everyone who, like myself, had the good luck to begin his acquaintance with science under his immediate guidance».

The well-known chemist A. W. Hofmann said in his address *in memoriam* of Zinin: «Had Zinin achieved nothing else than the transformation of nitrobenzene into aniline, his name would yet remain written in golden letters in the history of chemistry». The success and greatness of the Russian science will for ever be connected with the names of Butlerov and Zinin.

I will give here a brief and very concise survey of studies in the field of organic chemistry carried out by Members of this Academy.

J. F. Fritzsche (1808—1871) studied several derivatives of indigo, determined the chemical nature of murexide as an ammonium salt of purpuric acid; he found that anthranilic acid is decomposed into aniline and carbon dioxide, discovered the isomerism of mononitrophenols; he also discovered compounds formed by hydrocarbons with picric acid.

F. F. Beilstein (1838—1906) in collaboration with Kurbatov was the first to give the correct prognosis of the chemical nature of hydrocarbons in the Caucasian petroleum, pointing out that a considerable portion of the latter consisted of completely hydrogenated aromatic hydrocarbons. The main part of Beilstein's studies was devoted to derivatives of benzene and to their structure. He was the first to propose the sensitive test for halogens in organic compounds known by his name.

Beilstein lay foundation to the well-known and helpful reference-book which embraces all known organic compounds together with their preparation methods.

M. A. Iljinsky (1856—1944) was a notable authority in the chemistry of anthraquinone. In his person he happily combined a scientist and a practical worker, and he always tried to introduce his scientific achievements into industrial practice. Much of his work was devoted to the chemistry of anthraquinone. The effect of traces of mercury upon the sulphonation of anthraquinone, discovered by him, is of great importance. Under these conditions the orientation of the sulphonation

reaction is altered and, instead of anthraquinone-beta-sulphonic acid, high yield of alpha-acid is obtained. Thus, mercury was found to be the catalyst which sharply altered the direction of the reaction; this was used for the preparation of numerous dyestuffs on the basis of derivatives of anthraquinone-alpha-sulphonic acid. Iljinsky's work contributed greatly to the development of the dyestuff industry in this country. According to his method was organized the manufacture of alizarine which is now covering the demand for this colouring matter in the Soviet Union. Quite original and interesting from the theoretical point of view is his dyeing method by using dyestuffs insoluble in water.

A. E. Favorsky (b. 1860) was Butlerov's pupil under whose guidance he started his studies with unsaturated hydrocarbons. The fruitful activity of Favorsky and his school has for many years been mainly devoted to the syntheses and interchanges of hydrocarbons with pronounced unsaturation. It has led to a series of discoveries and generalizations: the ability of acetylene homologues to isomerize into one another and into allenic hydrocarbons according to their constitution and to the conditions of the reaction has been established. A simple procedure has been found for the synthesis of acetylenic and vinyl-acetylenic alcohols, and it has been shown that these may be used as valuable original material for the production of film-forming and adhesive substances. The conditions have been found for acetylene to combine with alcohols with the formation of vinyl ethers, which may be readily and quantitatively hydrolysed, giving acetaldehyde.

N. J. Demjanov (1861—1938) was primarily concerned with the investigation of the action of nitrous anhydride and nitrogen tetroxide upon ethylenic hydrocarbons. To this subject Demjanov paid exceptional attention. His investigations on the isomerization of rings are of particular importance. For the study of these phenomena he chose the interchanges of the simplest cyclic compounds, and was the first to prepare cyclopropene and methyl-trimethylene. Demjanov has found that according to the reaction conditions the rings may either be widened or narrowed; he has also demonstrated that the rings do always increase or decrease by a single carbon atom only. This regularity has been established for cyclic compounds with molecules comprising from three to eight carbon atoms in one ring.

N. D. Zelinsky (b. 1864), creator of the charcoal respirator, one of the founders of organic catalysis. He set out to investigate Caucasian petroleum proceeding from the synthesis of the individual cyclic hydrocarbons. In his studies organic synthesis and that of petroleum are inseparably united with catalysis. He discovered the catalytic reactions

of selective dehydrogenation of six-membered cycles to yield aromatic rings, transformations of five-membered rings into six-membered rings and *vice versa*, opening of rings and their closure, irreversible catalysis. These reactions are the essence of his studies in the field of the catalysis of hydrocarbons.

Zelinsky has organized the Laboratory of Super-High Pressures, where the interchanges of organic compounds are studied which proceed under pressure without the influence of a catalyst.

An extensive school of able research workers in chemistry has been formed by Zelinsky at the Moscow University.

N. M. Kizhner (1867—1935), though no direct pupil of Butlerov, was nevertheless a typical representative of his school. Among his numerous studies should be mentioned in the first place the work: «On the Constitution of Hexahydrobenzene», a series of syntheses, exemplary as to their performance, of representatives of the simplest alicyclic forms and of their derivatives, investigations in the field of isomeric transformations of cyclopropyl and cyclobutyl-carbinols, and studies on catalytic decomposition of alkylidene-hydrazines and pirazoline bases, which led to a new method for the production of hydrocarbons from ketones and aldehydes.

S. V. Lebedev (1874—1934) is wide-known as the author of the industrial method for the production of synthetic rubber, adopted by the industry of the USSR, the first large-scale synthetic rubber industry. Lebedev's theoretical and experimental work was concentrated upon the study of the polymerization of diethylenic hydrocarbons and the investigation of catalytic reactions, which led to the conversion of alcohol into divinyl, with subsequent polymerization of the latter to synthetic rubber. Lebedev performed these investigations with much skill; his ambition was to penetrate the nature of unsaturated molecules.

S. S. Nametkin (b.1876) has devoted himself to the study of reciprocal transformations of hydrocarbons. Especially fruitful proved under Nametkin's hands the reaction of direct nitration of hydrocarbons, whose mechanism he disclosed; this reaction opened up the way for solving a number of very important problems connected with the nature and the structure of bicyclic and tricyclic hydrocarbons. A considerable number of Nametkin's studies have been devoted to the chemistry of petroleum and camphor. He discovered a new type of camphe-
nic re-arrangement that permitted to clear up the mechanism of racemization and optical inversion in the series of camphor and camphene.

A. E. Arbusov (b. 1877) is an outstanding organic chemist, bearer of the traditions of the Kazan school of chemists. His principal studies are concerned with organic compounds of phosphorus, namely with the structure of phosphorous acid and its derivatives, and with the catalytic phenomena in the field of certain organic compounds of phosphorus. This perseverance in extensive investigations of organic compounds of phosphorus led Arbusov to the discovery of a new convenient method for the production of free radicals of the triaryl-methyl series. Arbusov's investigations are remarkable for accuracy and experimental skill. Among his works in the other fields mention should be made of studies on turpentine oil and turpentine, which have shown that in resin channels turpentine is under a pressure of several atmospheres. As a result, a correct determination of the composition of Russian turpentine oils could be made.

A. E. Poray-Koshitz (b. 1877) is the head of the chemists engaged in aniline dyestuff industry. During 40 years he has worked in the field of the chemistry of dyestuffs. Poray-Koshitz's principal work is the investigation of the problem of chromophore groups connected with the colour of chemical compounds. His work entitled «The Relations between Colour and Chemical Constitution of Organic Compounds» is of great chemical importance. Another branch of Poray-Koshitz's scientific activities is related to problems of the theory of dyeing animal fibre. The dyeing process and the absorption by the fibre of the dyestuff are the more intense, the more the molecule of the dyestuff is liable to tautomeric changes. According to Poray-Koshitz's opinion, the process of dyeing is virtually the formation of a salt between the proteinic material of the fibre and the dyestuff. Poray-Koshitz has developed methods for the synthesis of a number of valuable dyestuffs.

V. M. Rodionov (b. 1878) occupies a prominent place among those versed in the chemistry of the aromatic series. For a long time he has worked in the chemical industry on the problem of the synthesis of unfading dyes. Next come his studies in the field of the chemistry and chemical technology of alkaloids. In this country he was the first to organize the production of morphine and related alkaloids. Rodionov's work on the synthesis of codeine is of great importance; he found the best method for the preparation of this alkaloid. From the oxidation products of narcotine Rodionov isolated opianic acid which as an aldehydo-acid became the subject of a number of interesting investigations made by him, which ultimately led to the solution of the problem of tautomerism of aldehydo-acids.

Rodionov has succeeded in finding a new original method for the preparation of beta-amino-acids, in showing that this synthesis is a general method for the preparation of these acids, which attract considerable attention on account of the interest they present in biochemistry.

A. P. Orekhov (1881—1939) was mainly concerned with the study of alkaloid-bearing plants of this country. After he had succeeded in isolating from the plant *Anabasis Aphylla* the alkaloid which he gave the name of anabasine, Orekhov passed from one success to another. He cleared up the constitution of this alkaloid and found it to be isomeric with nicotine. Anabasine is an excellent insecticide and has now found wide use as a means to control agricultural pest. In his numerous investigations Orekhov has shown that quite different families of plants may contain derivatives of an identical heterocyclic compound. Another alkaloid isolated by Orekhov is also of practical importance; it is salsoline, an alkaloid which produces a steady hypotonic effect. As an outstanding investigator in the field of alkaloids, Orekhov has created a school of his own at the Pharmaceutical Institute.

P. P. Shorygin (1881—1939) was engaged in research in various fields of organic chemistry. Particularly interesting are his studies on the use of organo-sodium compounds in synthesis. His experiments went to demonstrate that these compounds are intermediates in the Würtz reaction. He showed that secondary and tertiary alcohols may be obtained with their help by treating aldehydes, ketones or acid chlorides with sodium and an alkyl halide. 20 years after Shorygin these studies were extensively developed by Morton and Stevens in USA. Shorygin discovered an interesting reaction of the substitution of hydrogen for sodium in aromatic hydrocarbons when treated with sodium alkyls. After Shorygin's studies, Gilman in USA has extensively developed the reaction of «metallization» of the aromatic nuclei with organic compounds of lithium, sodium and potassium. Shorygin introduced a new method for the preparation of organo-sodium compounds by splitting ethers with sodium or sodium alkyls.

During the last period of his life his interests were gradually concentrated around the problem of large molecules; here credit is due to him for many important studies connected with the preparation of methylene and glycerol ethers from cellulose and starch.

A. N. Nesmeyanov (b. 1899) has made an important contribution to the development of the synthesis of organometallic compounds. These investigations were started by him in collaboration with Professor K. A. Kocheshkov. During the 17 years that have elapsed since the beginning of these studies, the authors have succeeded in enriching

this branch of chemistry with many novel synthetic methods. Among these particular attention deserves «the double diazonium salts decomposition method» which made it possible to prepare organometallic compounds of mercury, antimony, bismuth, tin, lead, arsenic. Organometallic compounds of mercury served under their hands for the synthesis and investigation of new organic derivatives of zinc, aluminium and tin. These new methods have been helpful in gaining a deeper insight into this interesting and important new branch.

Of no less interest are Nesmeyanov's studies of the addition products formed by mercury and certain other metal salts with olefins or acetylene; these investigations shed additional light upon the nature of the linkage between the metal salt and the unsaturated molecule in these peculiar compounds situated at the border line between organometallic and complex compounds.

Now as I approach the end of my address, I wish to say that Zinin, Butlerov, Mendeléev—these are the three names that will for ever be cherished by them whose ambition is in the progress and greatness of the Russian science. A true pupil of Zinin's that he was, Butlerov was aflame with passionate love for science. As we have seen, he took a leading part in the theoretical development of the doctrine of chemical constitution and was the first Russian scientist who created a brilliant school of Russian chemists. For one may well be a great scholar, but leave no extensive school of disciples who would be able to carry on his scientific work, following the footsteps of their teacher. Yet Butlerov's conceptions are still stimulating experimental research, enabling his followers to trace the path of the evolution of forms in organic compounds. Butlerov was also endowed with another rare gift: his winning character which attracted to him his pupils and co-workers. This was in no small measure responsible for his success in forming a large school. Including many gifted investigators, this school extended its influence to all Russian chemists and had a beneficial effect upon their work.

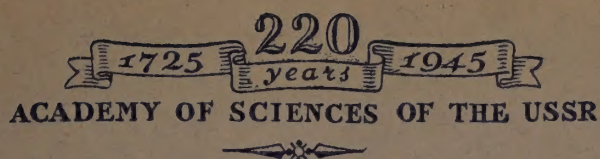
The success of Butlerov's school was a brilliant and unprecedented one. Here is how the illustrious French chemist Dumas describes the requirements which the head of a school in fine arts or in science has to answer: «It should by no means be supposed that the only thing a representative of a scientific or artistic school is expected to do is to surround himself by clever, industrious pupils, and kindly to help them in their studies by his practical advice. As a matter of fact, it is quite in a different way that things are done. The representative of a laboratory or of a school in fine arts has to be an example of diligence: thoroughly devoted to his work, patient, working hard himself; it is he who gives

both the start and the final touch to everything. The disciples must be allowed to be proud of their teacher; brilliant discoveries, fascinating ideas, or beautiful works of art must win his school the attention of the scientific world, or of connoisseurs in fine arts. Under these conditions the zeal for work rises, the imagination becomes excited, and entire generations inspired by the same ideas make jointly for the pursuit of truth or beauty. It is at this cost only that a school is created; at this cost only one can become a teacher, loved by his disciples, whose imposing mental power inspires them with faith and esteem, and whose winning kindness and cordiality serve as an inexhaustible stimulus of love».

And right was Dumas when he said: «Ce n'est pas la science qui dessèche le coeur».

After the Great October Revolution the yearning for knowledge has increased, the legacy of Butlerov's scientific and moral ideas has not only been preserved, but it still continues to encourage and attract generation upon generation to scientific work. We see with what eagerness cores of thousands of young men and women strive for the higher school, with what attention and diligence they make for the subject they have selected, and with how much pleasure they pass to experiments after having received the theoretical training necessary.

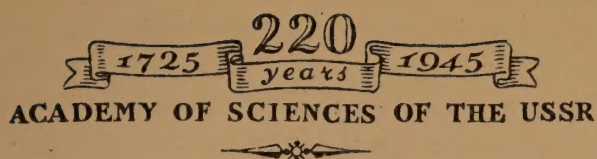
Our young people we put our trust in, are inspired not only by the sublime example of great scientists whose names shine over centuries, they are also inspired by our heroic epoch, by the many-sided life of our Great Country, led to the height of culture by the best friend of young people, comrade Stalin. And how happy is our young generation to live, work and learn at an epoch when it is up to anyone of them to try his forces and climb the summits of Science.



THE ACTIVITY OF THE ACADEMY
OF SCIENCES IN THE FIELD
OF GEOLOGICAL AND GEOGRAPHICAL
EXPLORATION OF THE SOVIET UNION

REPORT DELIVERED BY
V. A. OBRUCHEV, Member of the Academy,
TO THE 220th ANNIVERSARY MEETING
OF THE ACADEMY OF SCIENCES OF THE USSR

ACADEMY PRESS
MOSCOW 1945 Leningrad



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It is Peter I, the great reformer of the Moscow State, who has laid the foundation of the development of geological and geographical sciences in this country. Even at that time the vast territory of Russia extended from the Baltic Sea to the Pacific Ocean, from the coasts of the Polar Ocean to the boundaries of China, «Kirghizian steppes», to the Caucasus and to the Black Sea; and all this immense land was waiting for its explorers. Only strong expeditions pursuing broad aims could be equal to this task. And by such expeditions was marked the exploratory work carried on in the Russian Empire during the XVIII century.

In 1720, prior to the foundation of the Academy, Peter I launched the exploration of the main rivers of this country and of the portages between them, from the Obi River and as far as the Argun. This work lasted for seven years and gave abundant materials which are now kept in the archives of the Academy of Sciences, only part of them having been published.

In 1725 Peter I sent the first expedition to the Kamchatka; this expedition, under command of the Danish seaman Bering, had to find out whether or not there is a connexion between Asia and America. The expedition explored the southern coast of the Kamchatka, discovered the Comandorski Islands, and attained the Polar Ocean, having thus confirmed the existence of a strait which had been discovered by the cossack Dejnev as far back as 1648.

After having ratified the statutes of the Academy in 1725, Peter I invited the French geographer and astronomer De l'Isle, whom he entrusted with the organization of a cartographical survey of the State. De l'Isle stood for twenty two years at the head of this work,

in which he was assisted by the great mathematician Euler. Thus was started the systematic exploration of the Russian Empire, which attained its further development after the death of Peter I.

In 1734 was started the survey of the coasts of the Polar Ocean by the Arctic Expedition of the Admiralty. During eight years under most difficult sailing conditions, withstanding all the hardships of the polar climate, the brothers Laptev, Malyghin, Ovtzyn, Pronchishchev, Cheluskin carried on the coast survey, from the mouth of the Pechora River to the mouth of the Kolyma. As a result of their endeavours was plotted a map of the coast-line of the region.

In 1741 was sent the Second Kamchatka Expedition, under command of Bering and Chirikov; this time the Academy of Sciences took active part in it, being represented by specialists in various branches of science: several naturalists, a historian, a philologist, an astronomer. Among the company was also Krashennnikov, who afterwards became a well-known scientist. Besides the Kamchatka, the islands of the Bering Sea and the coasts of Alaska, the expedition explored also a considerable part of Siberia, having attained the towns of Yakutsk and Nerchinsk; the results have been published in the Transactions of the Academy.

In 1739 a Department of geography was added to the Academy of Sciences, to which credit is due for having compiled and published the first scientific Atlas of Russia. Two years later returned from abroad Michael Lomonosov, the first Russian scholar, famous for his remarkable achievements in the most various branches of science: chemistry, geology, mineralogy, metallurgy, as well as in poetry and painting. His efforts were greatly impeded, however, by the permanent struggle he was engaged in against the German scientists, whose influence was at that time preponderant within the Academy. Lomonosov called them «the enemies of Russian science, who suppressed growth of Peter's plantation». He was struggling against them for the progress of science in Russia, for the young generation of scientists who were to be trained in order that science could take root and thrive in this country.

Lomonosov worked out questionnaires that had to be distributed all over the country, and thus serve to collect geographical information. It was also he who urged the Government to organize the first polar expedition to Spitzbergen, with the aim to find out the route to India through the Polar Ocean. Lomonosov was also the author of many work on geology, mineralogy, metallurgy, in which he spoke of the Earth's strata, the formation of icebergs, and the birth

of metals. Lomonosov's far reaching ideas in geology were in advance of those of the European scientists of his time. His outstanding work characterizes the Russian Academy of the middle of the XVIII century, after the Second Kamchatka expedition.

The last third of the XVIII century was marked by important expeditions organized by the Academy during the reign of Catherine II. In these expeditions took part Pallas, Gmelin jr., Lepekhin, Ozeretskovsky, Rytchkov, and students of the Academy: Zuev, Kashkarov and Sokolov. The exploration now embraced the northern, eastern and southern provinces of the European part of Russia, inclusive of the Crimea and the Caucasus, and also Transcaucasia with the Caspian Sea, the Urals and Siberia, as far as Nerchinsk Dahuria and the Kirghizian steppes in the South, and Berezov on the Obi in the North. These expeditions collected rich material not only on the geology and geography of the regions explored, but also on botany, ethnography and zoology. The knowledge of the immense territory, the earliest information on which had been furnished by the first expeditions of the XVIII century, was thus completed and widened by the expeditions carried out at the close of that century. Most of the results appeared in a series of comprehensive volumes, illustrated by figures and maps, which were published by the Academy of Sciences.

The first half of the XIX century was characterized by a certain decrease in the expeditionary activity of the Academy. This decrease was caused in the first line by the wars waged at that time by Napoleon I. On the other hand, it was also due to the foundation of several universities, of the Mining Corps, and of the various scientific societies which took part in the exploration of the country. The Mining Department undertook prospecting at the Urals and the Altai and in the region of Nerchinsk, carrying out reconnoitring survey and description of minerals. In the beginning of the XIX century the Academy sent to the West of Russia an expedition under the guidance of Severghin, by which considerable research work was also done in mineralogy, while an expedition headed by Adams was sent to the delta of the Lena River in order to excavate the body of a mammoth which had been discovered there.

The workers of the Academy of Sciences took also part in several circumnavigations, undertaken by Krusenstern, Golovnin, Kotzebue, Bellingshausen, Lazarev, Lenz, Lietke, and Wrangel. The results obtained by these expeditions have greatly contributed to the knowledge of the oceans explored, their coasts and islands. Later on a

number of strong expeditions were organized. Those headed by Baer explored Nova Zembla, Lapland, the delta of the Volga and the Caspian Sea and yielded abundant geological, geomorphological and biological information. The expedition of Boethlingk went to the Kola Peninsula and Finland, that of Hess, to Transbaikalia; expeditions headed by Fuss and Bunge were sent to Peking, through Siberia and Mongolia. The latter yielded the first accurate hypsometrical records taken along its route, which contributed greatly to the knowledge of the relief of Mongolia; it also gave valuable geographical, botanical and magnetic information. Of particular importance was Middendorff's expedition to the North and East of Siberia; this expedition established the occurrence of vast areas of permanently frozen grounds; it also yielded interesting data on the geology of the Taimyr Peninsula and on an utterly unexplored region in the basin of the Aldan River, between the Stanovoy mountain range and the Amur River. Mention should also be made of Grevingk's expedition to the Kanin Peninsula and of his monograph on the Kamchatka, the Okhotsk region and the Comandorski Islands. Helmersen's exploration of the Urals, of the Kirghizian steppes, the Altai, and his investigation of coal-fields and artesian waters in the European part of Russia were also important achievements. Although the idea of this work belonged to the Mining Department, the reports were published in the Transactions of the Academy of Sciences, on whose behalf Helmersen also revised and prepared for print the results of Middendorff's geological observations.

Credit is also due to the Academy of Sciences for having published the works by Severghin, Hermann and Hess in mineralogy, by Brandt, in palaeontology, by Kupfer, on terrestrial magnetism.

The expeditionary activity of the Academy of Sciences continued in the second half of the XIX century, in spite of the foundation in 1845 of the Geographical Society which undertook the organization of extensive expeditions to Siberia and Central Asia. To the most important expeditions of the Geographical Society belonged the expedition to Siberia which comprised several parties. Then follows the expedition to the Nijniaya Tunguska, the Lena and the Olének River; at the head of this expedition was Czekanowsky. Among the expeditions to Central Asia should be mentioned those guided by Przewalsky, Potanin, Pevtsov, Roborowsky, Kozlov, Grum-Grzymailo, and others.

To the Academy of Sciences also belonged the initiative in the exploration of the Caucasus, which was carried on during many years

by Abich; Ditmar's expedition to the Kamchatka, that of Sewertzoff and Borshev, to the coasts of the Aral Sea and the basin of the Syr-Darya River, both of five-year duration, were also organized by the Academy.

It is necessary to note here Middendorff's journey to the Baraba steppe and to Ferghana; Lopatin's expedition to the Podkamennaya Tunguska, that of Fr. Schmidt to the Taz Bay, with the purpose of mammoth excavations, and to the lower reach of the Ienissee River; Schrenk's expedition to the Amur and the Maritime Province. Let us note also the archaeological expedition of Radloff and Klementz to Mongolia, which have also collected some geological and geographical material, and the expedition headed by Bunge and Toll to the region of Verkhoyansk and to the New-Siberia Islands. To conclude the list, let us mention the geological researches which were carried out by Czernsky along the Siberian high-road leading from Irkutsk to the Urals, in the course of which a number of minor excursions were also made; Czernsky's description of Quaternary mammals collected by Bunge and Toll, and his journey to the North-East of Siberia, to the basins of Indigirka and Kolyma Rivers, which unfortunately was interrupted by the death of this explorer. It is also Czernsky who set out to explore the Near-Baikal region, and compiled the first and so far unique geological map of the coasts of that remarkable lake. The investigation of its waters, its peculiar flora and fauna was started by Dybovsky and Godlevsky as far back as in the seventies of the last century; these two scientists did not belong to the staff of the Academy of Sciences.

In this short review of the achievements made by the Academy in the second half of the XIX century it is necessary to cite, aside from expeditionary work, also the mineralogical and crystallographical researches carried on during several years by Koksharov, and the mineralogical work done somewhat later by Eremeev, the palaeontological studies of Brandt and Fr. Schmidt, the petrographical investigations made by Khrustchev, and the exploration of the coasts of the Black Sea and the Caspian carried on during many years by Andrussov, as well as the hydrological investigations by K. Schmidt.

The works of A. P. Karpinsky, who was elected to the Academy in 1886, mark the beginning of a new period in the development of Russian geology. He gave an analysis of the relations between the changes in the shore-line and the movements of the Earth's crust; traced the main directions in which those movements proceed, and

compiled the first tectonic map of the European part of Russia. Important work has also been done by Karpinsky in palaeontology, stratigraphy, tectonics, as well as in investigating the mineral resources of the Urals. In his quality of director of the Geological Committee which was founded in 1882, Karpinsky played a leading part in the geological investigation of Russia. He was president to the VII International Geological Congress of 1897, the first international congress that took place in Russia. He took the lead of the Transactions, organized the excursions which had to enable the scientists who came from abroad to form an idea of the geology of the European part of Russia, and also of the Caucasus and the Urals.

We thus see that the successes scored by the Russian Academy in the development of geological and geographical sciences during the XIX century have won for these sciences a honorable place in the scientific world of Europe. The numerous expeditions have furnished abundant materials from the various parts of the country, which improved considerably our knowledge of its relief and geological structure as compared to what it had been by the end of the XVIII century. Especially important were the advances in the exploration of the Caucasus and of the coasts of the Black and Caspian Seas, of the Altai and Near-Baikal region, and of Northern and North-Eastern Siberia, inclusive of the Kamchatka Peninsula.

During the first sixteen years of the XX century several expeditions were organized with the aim to explore those polar regions which still remained but poorly investigated. Toll's expedition on board the ship «Zaria» explored a part of the Taimyr Peninsula, the New-Siberia Islands and Bennet's Island. Backlund and Tolmachev explored a vast territory in the North of Siberia, between the rivers Lena and Ienissee; Tolmachev continued the exploration of the coasts of the Arctic Ocean, from the River Jana and as far as the Bering Strait. Expeditions headed by Hertz and Wollosoiwicz made excavations of mammoth remains on the river Berezovka and at the Great Ljakhov Island. The Russian-Swedish expedition of Backlund and Tchernyshov was sent to Spitzbergen in order to measure the arc of the meridian passing through this island; this expedition has collected some new valuable data. The expedition to the Polar Urals organized by the brothers Kuznetzov under the guidance of Backlund gave a description of this region. Andrussov carried on his investigation of the Black Sea and of the Caspian; Fedorov completed his classical studies in crystallography; Vernadsky reorganized the Mineralogical Museum of the Academy of Sciences, started

the prospecting for and the study of radioactive elements, proceeding at the same time in his remarkable work in the domain of mineralogy and geochemistry. Mention should also be made of the expeditions organized by W. L. Komarov, which took place at the end of the XIX and the beginning of the XX century; the area under exploration was now the basins of the Amur River, that of the Oussuri, Manchuria, the Sayan as far as lake Kosogol, and the Kamchatka Peninsula. In addition to the most valuable botanical results they attained, these expeditions have also collected geographical and geological information of great interest.

The outbreak of the First World War put to the fore the investigation of beds of raw materials of strategic value, in which the Academy of Sciences took an active part. It was then that by Vernadsky's initiative the Committee for the exploration of the productive forces of Russia was organized; this Committee, in collaboration with the Geological Committee, has published in a concise form informations concerning various minerals, which proved later of great use in organizing prospecting work.

The Great October Revolution overthrew the social system of Czarist Russia, and led to the creation of the Union of the Soviet Socialist Republics. The development of all branches of science, stimulated by the Government, went on at a high speed now, and within the short Soviet period some of them have reached and even surpassed the development of the respective branches of science in capitalist countries. During this period an important part was played by the Academy of Sciences, especially after the elections of 1929.

The rôle played by the Academy in the geological and geographical exploration of the country was still increased after the Academy had been transferred to Moscow (1934); a number of new institutes, laboratories and committees were founded, the personnel was strengthened, and, finally, a new department, that of Geological and Geographical Sciences, was organized in 1939.

During the 27 years that followed the Revolution, the number of geological and geographical expeditions could be counted by hundreds, while the treatment of the data obtained and the work done in the corresponding institutions attained a scope which makes even a mere enumeration of the expeditions, their topics and scientific results a task impracticable here, within the space available.

Scarcely any part of the territory of the Union remained out of the scope of the expeditionary activity of the Academy. This activity was not everywhere developed to the same degree, it is true. Thus,

the North of Siberia was but little touched by it, being the sphere of action of the Arctic Institute, which belongs to the system of the Northern Sea-route Administration. Unlike this, the expeditions of the Academy extended far to the North of Mongolia and embraced the major part of the Republic of Tuva.

The geological survey of the country is one of the pursuits of the Committee for Geological Research at the Council of People's Commissars, in which this Committee is assisted by the local administrations. Accordingly, the expeditions of the Academy of Sciences undertook survey at such regions only where no problems of stratigraphy, tectonics, petrography, or mineral distribution could otherwise be approached for lack of necessary data. Some of the expeditions studied also the geomorphology of the given region, along with their main geological work, or apart from it. Others were engaged exclusively in the study of deposits of minerals; excavations of fossil mammals were also practised. There were also such expeditions as pursued geochemical aims. Neither pedological investigations, nor regular researches in permanently frozen grounds were carried on within the system of the Academy at the pre-revolutionary period. Consequently, some of the expeditions were now engaged in the study of these problems, as well as in the treatment of the materials already collected. The number of the so-called «complex» expeditions has increased considerably: the parties of which these were made up were not only carrying out geological and geographical researches, but studied also the soils, the flora and fauna of the corresponding region, the permanently frozen grounds, the economical conditions, *etc.* The organization of such complex expeditions was realized by the Committee which has been mentioned above, now raised to the rank of a Council. As to the width of their scope, the complex expeditions approached those of the XVIII century.

Great importance was now attached to various conferences and meetings, summoned by the Academy of Sciences either at the request of individual federal or autonomous Republics, or on its own initiative. The papers read at these conferences went to summarize the information on a given republic or region in a definite branch of science; new methods of research were suggested and discussed. As an example, mention can be made of the sessions of the Academy that took place in 1932 at the Urals and in Siberia, and were concerned with the problem of the Ural-Kuznetsk basin; of conferences which met in the Yakutian Republic, in Buriat-Mongolia, Kazakhstan, Kirghizia, Turkmenistan, Oyrotia, of the six conferences devoted

to the problem of permanently frozen grounds, and others, which dealt with tectonics, palaeogeography, geology of the Quaternary, soil science, palaeontology, *etc.*

The investigation of this country has gained much by the foundation in its remotest parts of various branches and departments of the Academy of Sciences. Such working bases were established in the Extreme North, at the Kola Peninsula, and in the Far East. More extensive branches were founded at the Urals, in the Soviet Socialist Republics of Kazakhstan, Georgia, Azerbaidjan, Armenia, Turkmenistan, Uzbekistan and Tadjikistan; within recently branches of the Academy have also been organized in the Kirghizian SSR and in West Siberia. Some of these branches have already been transformed into independent National Academies.

The scientific personnel of these local institutions was of great help during the various expeditions of the Academy of Sciences of the USSR; at the same time, independent scientific investigations were carried on by them.

Of outstanding importance are the results of the exploration of the Kola Peninsula. During many years this region was thoroughly investigated by geologists, mineralogists, geographists, pedologists, botanists; in the Khibina massif, Monche Tundra and Volchia Tundra deposits of apatite and nepheline have been discovered, which belong among the most abundant in the world; copper-nickel, titanium and iron ores have been found, as well as luyavrites high in niobium, tantalum, rare earths and a number of new minerals. A new, large scale industry has already been organized there, which has to work over all this immense stock of raw material. This outstanding work was carried out under the guidance and personal participation of the late A. E. Fersman, Member of the Academy.

The north of the Arkhangel province, inclusive of Bolshesemel'skaya Tundra and Nova Zembla, was also the subject of explorations which lasted for several years. The tectonics and stratigraphy of the region have been outlined in their main features; the coal-bearing series of the Pechora basin, which has now become the main source of coal-supply to the whole North, were also thoroughly investigated. The study of the Timan and of its copper deposits is now in progress, and so is that of the iron and manganese ores and of the conditions of oil occurrences in the Pechora basin. The work done by the Vorkuta station attached to the Institute for the study of permanently frozen grounds has greatly contributed to the knowledge of the phenomenon in question, its development and bearing upon the mine-opening,

road-making, and every kind of construction. In the exploration of the Pechora basin important part was played by Professor Chernov.

Extensive geological research was carried on all over the central regions of the Union with the aim to determine the outlines and the depth of occurrence of the Kursk—Voronezh Pre-Cambrian massif, which was known to contain rich deposits of ferriferous quartzites. These regions became also the scene of important geomorphological, pedological and botanical researches connected with the construction of several water-power stations in the basin of the Volga, with the consequences of the overflowing of the flood-plains and with the irrigation of the area along the left bank of the Volga within the lower reaches of this river. Important work has been done in order to make clear the conditions of petroleum and gas occurrence along the left bank of the Volga and in the Near-Uralian region. The eastern borders of the Donetz and the Moscow basins were also investigated, and the results obtained were laid down as a basis for reconnoitring and prospecting for petroleum and coal all over the eastern part of the Russian platform. These researches were guided by Arkhangelsky, Gubkin, Prassolov and Stepanov. Most important practical results are already being enjoyed, such as the discovery of the oil fields of the Second Baku, of gas in the Elshansk region; because of the data obtained, some alterations had to be made in the distribution of the power-stations constructed in this region.

The expeditions of the Pedological Institute have shed some new light upon the conditions of soil erosion, and accordingly, have led to the elaboration of new efficient methods for the control of this phenomenon, as well as of methods for the reclamation of alkaline soils in the Volga region. Within the period of war important work was done to gain a better knowledge of the geological structure and the occurrence of petroleum in Bashkiria, the Tatarian Republic and other Near-Uralian regions which make part of the Second Baku. In this connexion the names of Blokhin and Shatsky should be mentioned here.

At the Caucasus Gubkin was engaged in the study of the tectonics and stratigraphy of the Taman Peninsula. Moreover, a complex expedition headed by Lebedev undertook in 1939 to retrace the geological history of the Main Chain, and to study the types of mineralization and of metalliferous deposits of industrial value, the geological structure and petroleum occurrences in East Georgia and the adjacent areas, as well as the water-power of the river Baksan. The littoral of the Black Sea was investigated mainly for its mineral

springs (Matzesta); the phenomenon of earth-slides was also given due attention. Soil-chemists have done much to find out such regions where the soils would be best appropriate for the culture of citrus-plants.

In Transcaucasia research was largely focussed upon the volcanic massif of Alagez, and upon lake Sewan; the latter appeared to be of particular interest as a possible source of energy for water-power stations, and for the amelioration of grounds in the Arax valley, which has already been put into practice. Numerous expeditions were sent to Georgia, High Swanetia, South Ossetia, Azerbaidjan, Nakhichevan, in order to investigate various deposits, mineral springs, building materials, soils, sources of water-power, irrigation conditions, *etc.* The results of this expeditionary work carried out under the guidance of Loewinson-Lessing and Beliankin, proved of high scientific and practical value. Zavaritsky undertook to investigate the extinct volcanoes in Armenia.

It is but natural that the Urals which rightly enjoy the reputation of the thesaurus of this country, have invited special attention on the part of the Academy of Sciences of the USSR. Nearly throughout its length, from the Polar circle and as far as the Mugodjar mountains, the range was explored either by complex expeditions, or by individual parties engaged in the study of special problems, *viz.* metalliferous deposits, coals, refractories, building materials, soils, geomorphology, hydrology. It was of particular interest to find out the conditions of genesis and occurrence of chalcopyrite ores (Zavaritsky), bauxites (Nalivkin), nickel (I. Ginsburg), chromium (G. Sokolov), manganese (Betekhtin). The successful solution of these problems went greatly to increase the output of these minerals which were urgently needed at the time of the war. Abundant data have moreover been collected, concerning the stratigraphy, tectonics, geomorphology of the range, which made it possible to improve the existing map and to develop in more detail the history of the Urals.

The plains of West Siberia were not left unexplored either: the banks of the rivers Obi, Irtysh, Taz and others, the Gyda Tundra, the glacial deposits and the deposits of the boreal transgression, the turfaries, were all thoroughly investigated. A boundary was traced between the glacial sediments of the Taimyr and those of the Urals; evidences of petroleum and Jurassic sediments were discovered on the River Bolshoy Yugan (Sukachev and Gromov).

Extensive work was carried on in Kazakhstan by the expedition of the Academy of Sciences of the USSR jointly with the scientific

personnel of the local branch of the Academy; this work went to second the geological survey, prospecting and reconnoitring work made by the local Geological Administration. The soils and salt-lakes of the Kulunda steppe and of the Emba region were investigated. In the Turgay province and in the Pavlodar surroundings excavations were carried out of an abundant Tertiary fauna of vertebrates (Borissiak, Orlov). In the central part of Kazakhstan new data have been collected on tectonics, stratigraphy, coal-fields, occurrences of gold, rare metals, reserves of aluminium in secondary quartzites (Shatsky, Nakovnik and others). An estimate was formed of the sources of copper-ore in Djezkazgan and Kounrad, which enabled Kazakhstan to claim to one of the foremost places in the Union with regard to the reserves of this mineral (Satpaev). The ferruginous quartzites of Karsakpay were investigated and found to be of high industrial importance (Satpaev and others). Extensive work in the domain of geomorphology, soil science, hydrology has been done by the Institutes of Geography and Soil Science.

Within the system of the Altai Mountains, *viz.* in the Alpine Shoria, various expeditions of the Academy have studied the conditions of occurrence, the genesis and composition of iron-ore and manganese-ore deposits, which now serve as a source of raw material for the Kuznetsk Metallurgical Plant (Lebedev). During the time of war, deposits of non-ferrous and rare metals were investigated in the Rudny Altai, as well as the stratigraphy of coal-bearing series (Maria Neuburg), and the petrography of coal-seams in the Kuznetsk basin.

With regard to the northern part of the vast Siberian platform, mention should be made of the expeditions which were engaged in the study of the relief and structure of the Byrranga Range, of the geomorphology and permanently frozen grounds in the basin of the Nijniaya Tunguska. There were also individual parties sent to carry out prospecting for coal and iron, and to search for the place of the fall of the large meteorite in the basin of the Podkamennaya Tunguska River. At Igarka, on the Ienissee River, a special station for the study of permanent freezing has been organized by the Academy of Sciences. In the southern part of the platform were studied masifs of greenstone as raw material for stone-melting, their composition and genesis; this work was carried out under the guidance of Loewinson-Lessing.

An expedition headed by Fersman has investigated deposits of graphite, asbestos and mica in the East Sayan. S. Obruchev has lately brought to an end his investigation of the stratigraphy and tectonics

of the eastern part of the range, and of the minerals that have been discovered there. Among these are deposits of bauxites. Three new maps—geological, geomorphological and tectonic—have been compiled.

Much attention has always been given by the Academy of Sciences to the exploration of Lake Baikal and its coasts. After the lake had been visited by several expeditions, a station was organized there at the village Listvenichnoe. Since 1930 this station has served as a permanent base for research work in the hydrology, chemistry, thermics, flora, fauna and ice-cover of this remarkable lake. These researches, carried on under the direction of G. Verestchagin, have yielded abundant material, both of practical value for navigation and fisheries, and of theoretical interest, as shedding new light upon the genesis of the lake depression and its peculiar fauna. Several geochemical expeditions were at work on the eastern coast of the lake, while the western was explored by geological expeditions (Pavlovsky and others); they have collected abundant information as to the stratigraphy, tectonics and mineralogy of the region. In the valley of the Irkut River investigations were carried on, concerned with permanently frozen grounds, as related to the water-power plants that were to be constructed there (Angarstroy).

Several parties were engaged in the study of the structure of the Tsagan-Khuntey and Malkhan ranges, in Transbaikalia; the results of their research work have added much to our knowledge of the stratigraphy, tectonics and age of the tungsten deposits of the Djida; stanniferous deposits in the basin of the river Onon were studied by a party under the direction of Smirnov. The aim of the expedition sent to the valley of the Gazimur and Uryumkan Rivers was to clear up certain controversial problems as to the stratigraphy and tectonics of this region.

At Ust-Kara a party of palaeontologists were at work, excavating a mammoth discovered there at an earlier date.

Extensive research in geology, hydrogeology and permanent freezing was done by the expeditions of the Academy of Sciences in the region of the Amur River, over a distance of more than 1500 km from the Lena, at the mouth of its tributary, the Vitim, and as far as at the city Komsomolsk, along the railway Baikal-Amur. These parties were dealing mainly with the building conditions and materials: deposits of various ores, of coal and graphite have been discovered. Several other expeditions explored the gold-bearing region on the River Zeia, the coal-bearing basin of the Bureia, the

lower reach of the Amur River, from the viewpoint of their geology and geomorphology. Farther north was explored the lake zone between the Selemja and the Amgun Rivers. Prospecting for non-ferrous and rare metals was carried on in the range Sikhote-Alin, in the Maritime Province.

A base of the Academy of Sciences of the USSR for permanent research work has been established in the Far East.

The Yakutsk Autonomous SSRpublic was shown much attention on the part of the Academy: within a period of 6 years, from 1925 till 1931, it was visited by several expeditions which studied its geology, geomorphology, hydrology, flora and fauna, *etc.* Later on a station has been founded in Yakutsk, for the study of permanently frozen grounds, fossil ice, and of the phenomenon bearing the local name of «naledi». The frozen stratum has been found to overlay underground waters which have been turned to profit for the water supply of the town of Yakutsk.

In 1941 a conference met there which has summed up the results of the researches achieved, and planned the program for further work.

During 1934—1937 the Kamchatka Peninsula was explored by an expedition of the Academy of Sciences which has organized there a station for regular observations of the activity of volcanoes. The station has already collected valuable material. This work had been organized and guided by Loewinson-Lessing, and later on, by Zavaritsky, who personally visited the Kamchatka and investigated the volcano Avachà.

On the territory of the Central Asiatic Republics several expeditions were engaged in the exploration of the deserts Kara-kum and Kyzyl-kum both from the viewpoint of hydrogeology and geology. The sulphur deposits and the ores of the ranges Nurata and Sultan-uz-dagh, the coasts of the gulf Kara-boghaz-gol, and the conditions of salt precipitation in this gulf were also investigated. The undrained depressions of Mangyshlak, the mineral springs and ore-deposits in the Kirghiz Range and the Thalass Alatau were likewise the subject of research.

There were also expeditions which investigated the deposits of mercury, tin and uranium ores in Ferghana, studied the hydrology of Lake Issyk-kul, the geomorphology, glaciology, soil and traces of mineralization in Tadjikistan and the Pamirs. All these expeditions were headed by Fersman, Grigoriev, Gerassimov, Shtcherbakov and others.

The Institute for Soil Science and some of the Central Asiatic branches of the Academy of Sciences of the USSR were also carrying on researches of the processes of salting and swamping of irrigated grounds, and have developed necessary preventive and ameliorative measures.

For the exploration of the northern parts of Mongolia and of the Tuva Republic a committee has been created by the Academy of Sciences, under the chairmanship of its president, W. L. Komarov. Several expeditions were engaged in geological, hydro- and geomorphological researches, in the study of soils, sand areas, coal beds, occurrences of precious stones and gold in the mountain systems Khangay, Kentey, the Mongolian Altai and in the Gobi depression. Abundant data have been collected, part of which have already been published, either as preliminary notes, or in the form of comprehensive monographs, on the geology of Tuva (Raczkovsky, Zoe Lebedeva, Kupletsky, Maria Neuburg, Polynov).

The advances in the geological exploration of the USSR made within the first twenty years of its existence, came to light at the XVII International Geological Congress which met in Moscow in 1937. Numerous reports and communications were delivered to the Congress by Soviet geologists. They were supplemented by exhibitions of samples, maps and charts in Moscow and at the Urals, during the excursions that took place before and after the Congress.

These excursions visited the South and East of the European part of the Union, the Caucasus, the Urals, Nova Zembla and Siberia, as far as the Kuznetsk basin and Krasnoyarsk.

Since the outbreak of war, the requirements of the front and the temporary occupation by the German invaders of coal-fields, oil-fields, iron, manganese, mercury deposits in the Ukraine, the Donetz basin and the North Caucasus, impelled the Academy to concentrate attention largely upon prospecting for new deposits, and for new reserves in the old deposits, to be able to increase the output of various strategic raw materials. Accordingly, the expeditions of 1941—1944 were mainly sent to the Second Baku, the Urals, the Altai, Kazakhstan, where they have scored important successes. The work done at the Institutes for Soil Science, Geography, Permanently Frozen Grounds, were also largely intended to satisfy the requirements of the defense of the Country. The scientific workers have joined the whole people in a common patriotic effort to defend the Country and to ward off the attack of the enemy.

It may thus be seen that the achievements made by the Academy of Sciences in the domain of geological and geographical sciences within the twenty-seven years that elapsed since the October Revolution outbalance those of the nearly bicentenary period that preceded the Revolution. The network of expeditions has now been extended to the whole of the territory of the Union, which was a powerful stimulus to the development of theoretical studies and the accumulation of new abundant data. To be able to answer the demand of the socialist construction and satisfy the needs of the front, many a problem of both practical and theoretical importance had to be speedily solved. This was achieved by the joint efforts of scientists engaged in expeditionary and stationary research work. At present, after the victorious conclusion of the Great National War, it is the theoretical problems that claim our closest attention. During the last years, the Department of Geological and Geographical Sciences has organized laboratories for a closer study of the problems of volcanology, hydrogeology, limnology, oceanology and of mineral fuel; these laboratories will contribute by their work to a rapid development of the respective branches of geology.

The results of the work which has been done by expeditions and by individual parties in geology, geography, pedology and other branches of science have been published in the transactions of the respective institutes and in various periodicals; some of them have also appeared in the form of monographs. Special mention is due here to such imposing publications as «The Stratigraphy of the Union», «The Palaeontology of the Union», «The Petrography of the Union», «The Soils of the USSR», «The Mineralogy of the Urals», «The Geology of the Union», «The Geology of Siberia», «The Non-metallic Minerals», «The Pegmatites», «Geochemistry», «History of Geological Exploration of Siberia», «The Great Altai», «The Great Djezkazgan», «Oyro-tia», «Buriat-Mongolia», *etc.* A number of scientific papers and monographs are still in press.

In concluding it is also necessary to mention here the intensified educational activities of the Academy during the period which followed the Revolution, as compared with the period before Revolution.

These many-sided activities are manifest in the form of books and scientific magazines published in popular editions, of lectures, reports and broadcasts. The training of postgraduates has also been practised on a much larger scale during the recent years; here the organization of the corporation of postgraduates aspiring to scien-

tific degrees of candidate and doctor proved a helpful pursuit. In this respect the Academy has returned to the methods applied at the time of Lomonosov, though on a larger scale, in conformity with scientific progress and the endeavours of the Government to make education accessible to all the peoples inhabiting the Union.

Now that the war has come to a happy end, it can safely be predicted that the scientific activities of the Academy will under the wise leadership of comrade Stalin extend and develop conformably to the lofty station which the heroic effort of our valiant Red Army and the selfless endeavour of our people have won for this country among the other countries of the world.

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EMBASSY OF THE UNION OF SOVIET SOCIALIST REPUBLICS

Information Bulletin

(Issued Three Times Weekly)

V, No. 68

Washington, D. C., July 10, 1945

ACHIEVEMENTS OF SOVIET AGRONOMY

The following comments are by Charles E. Kellogg, Professor of Soil Science, another member of the United States scientific delegation to the USSR:

One is immediately impressed with the size of the Soviet Union, with the great diversity of its resources, and the number and varied nationalities of the people. Although the war against the invaders interrupted the march toward improved living, the strength of the country—industrial, agricultural and social—make a great future seem certain.

For years American soil scientists have recognized the leadership of the Dokuchayev Institute in the development of the modern science of the soil. In addition, the accomplishments of Russian scientists in plant physiology, nutrition and genetics have been of the utmost importance. Our present visit has given us a greater insight into the practical use of these scientific principles in the improvement of agriculture through collectivization.

Much was gained by visits to the experimental stations at the Timiryazev Agricultural Academy and the Dolgoprudnaya Station, as well as to the Dokuchayev Institute. Not only are the results being obtained at these research institutes

of the greatest importance for increasing agricultural production and improving rural living in the Soviet Union, but they are also of great value to American farmers.

As soon as possible, a frequent exchange of professors and advanced students of agricultural science must be arranged between the United States and the Soviet Union. We need to learn each other's language so that we can read more widely the great volume of important works being produced. Furthermore, agriculture must be seen at first-hand to be understood. We need to travel together among the farms of both countries and see what new research is needed as well as how to apply the principles that have already been developed in both countries.

These things, and more, can be expected. Certainly a respect for talents and accomplishments is mutual between Russians and Americans, and there is a deep realization that the future peace of the world depends, most of all, on the effective cooperation between our two countries. The language of science is international. From common intellectual understandings in science, we can at will develop social and political understandings that will bring a new age of peace and opportunity to the world.

A Scientist Visits the Soviet Union

21-Day Journey Through Russia Held Surprises for Americans

By Charles E. Kellogg

(Several American scientists were recently guests of the Academy of Sciences of the USSR at a jubilee session commemorating the 220th anniversary of its founding. Among them was Dr. Charles E. Kellogg, Chief of the Division of Soil Survey in the U. S. Department of Agriculture, who has written a series of seven short sketches based upon his experience. The invitation came to Dr. Kellogg personally and he went as a private citizen, not as an official representative of any group or organization.)

I

The scientists of the Soviet Union gave a party last June. This was the greatest party of its kind in modern times. They invited over



Dr. Kellogg

100 of their fellow scientists from the United Nations to spend two weeks with them in Moscow and Leningrad and at the expense of the hosts. I received and accepted one of these invitations, along

with 14 other Americans.

Twenty-one days in the Soviet Union is little enough, indeed, but our hosts made every facility available for us to see as much of their scientific and cultural institutions as possible. Then the air journey in daylight from Baku to Moscow, and from Moscow across Siberia to Alaska, gives one quite a sample of the landscape.

No doubt a visit to the Soviet Union would hold many surprises for any American. Certainly it did for me. This is not due to dishonesty of reporting, nor even entirely to a lack of it. Things are just too big, and there is too much. But more important is the background against which a reporter draws his pictures.

For example, take the common questions: "How do the people

look? Do they appear healthy and well fed? How about their clothing? Are they alert or slow and indifferent?" Now one might ask the same questions about America. We know, of course, that the answers depend upon where one goes and when. Even within the same county or the same city the answers are different.

The Soviet Union is an enormous country with many cultural groups and scores of languages. But still more important is the reference scale—the standards of comparison.

To illustrate: Not long ago two American travelers in Moscow for a short time each took a walk through the city streets. One of them came back unhappy and discouraged. He saw evidences of malnutrition. The people were poorly clothed. Many looked glum. He saw crippled soldiers without proper aids. The other man was enthusiastic. To him the people seemed healthy and strong. Some were tired, but they were alert, eager to get along, yet glad to exchange a smile. Neither man was necessarily prejudiced. Both were honest. But one saw Moscow and its people against the background of Fifth Avenue in New York City; whereas the other knew about the belt tightening after the Revolution to build up the basic industries, then the war, the desperate sieges of the great cities, and the appalling shortages. Everything had had to go for defense. He was astonished how people could emerge from such trials so splendidly.

War's Desolation

The modern American custom of using strong words for little things—like "meat famine" or "severe

restrictions on paper" in the United States—utterly deprives one of words to describe conditions in Leningrad and other cities of the Soviet Union during the war. Along the railroad from Moscow to Leningrad we saw town sites, sites where the former towns simply no longer exist. Beyond the terrible destruction of the war itself was the wanton annihilation of people and things by the Germans. This we didn't see, of course; but the evidence is clear in the remains of museums and cultural institutions that we did see.

The Russians are proud of their achievement, proud of the Red army, and proud of their scientists and engineers. Certainly any less effort—any less tenacity among the people, or any less strength in the government—would have meant disaster for them. And where would we have been no one knows.

But this does not mean they are not grateful for the aid we were able to send them.

Everyone knew about this jubilee session of the Academy of Sciences from the radio and the newspapers. It had been discussed for weeks. The people of the little rural town of Luban, south of Leningrad, knew that the special train, taking members of the Academy and their guests from Moscow to Leningrad, would stop for a few minutes. And they knew that Americans would be on board.

Expression of Gratitude

Apparently they were ready for us. As I stepped off the train to stretch my legs for a few minutes, an elderly lady from the state farm nearby came up to me, modestly, with a gift of wild flowers. She told me how the Germans had destroyed all their livestock and buildings, and how the American aid came just in time to save them from death, or worse. She cried a little in the telling, but held up her head again to say, a bit proudly, how they were building all over again, new. The wild flowers she wanted to give to an American—

ARTICLE I (CONTINUED)

to some American—as a symbol of her gratefulness.

Hardly had she finished when a wounded soldier presented me with an ash tray he had made from a German shell. The cup came from the base of the shell and supports a central standard topped by the star of the Soviet Union. His gift was a token of gratitude for American war materials that helped him and his comrades drive the invaders back.

Enormous Good Will

Never was I prouder to be an American, and at the same time, never have I felt so humble and insufficient under my share of this responsibility.

The enormous good will of the people of the Soviet Union toward Americans seemed apparent everywhere I went.

The Russians seemed to me to be tired—plain tired, but eager to get at the job of construction. I should not say exactly reconstruction, because their confident expectancies go far beyond the prewar cities and farms.

They take it for granted that an expanding science will make it possible for them to have more and have it easier. Desperately they want peace and a chance to try. War for them had meant depression. They seem not to be afraid of science, of “technological employment” or of any lack of ability to control the machines. Machines mean production to them, and with more production they expect good times and more opportunity for the individual.

(Dr. Kellogg's Second Article Will Appear Tomorrow.)

Russia Struggles To Overcome War

A Department of Agriculture scientist, Dr. Charles E. Kellogg, recently invited to Moscow, found the Russians struggling valiantly to recover from the devastating war with the Germans. In a series of articles, the first of which appears in The Post today, he tells of what he saw.

(See Page 8.)

Back to the Paths of Peace



REGENERATE RUSSIA—Dr. Kellogg, on his way to the Russian congress of scientists, saw scenes like this as he crossed territory in which a war-ravaged people labored to restore their farms and cities. “The Russians,” he writes, “seemed tired—plain tired, but eager to get at the job of reconstruction.”

II Soviet Science

By Charles E. Kellogg

The formal meetings at the Jubilee Session of the Academy of Sciences were not many. At these the usual greetings were exchanged



Dr. Kellogg

Nearly all of the guests were already familiar with the Russian work in their field, although most of us were surprised at the enormous scale and breadth of the research program. In my special branch—soil science—the Russians have had a forward place of leadership for many years. In fact, one should say that modern soil science originated in Russia.

In physics, psychology, plant physiology, chemistry, geology, and other fields they have many of the recognized leaders. Despite the inevitable confusion accompanying the Revolution, science has prospered.

Soviet Advances

The extent to which science has gone ahead in the Soviet Union during the war itself, was a distinct surprise to most of us. Emphasis on applied science was expected, as in the United States. But the leaders of the Soviet Union apparently have a keen appreciation of the fact that intensive research in the fundamental sciences is essential to continued development of applied science. This exceedingly farsighted policy in the support of scientific research will doubtless give Soviet scientists many advantages in the years that lie ahead.

Many Contribute

Since the language of science is international, it is not easy to pick out any discovery and say that some one scientist or the scientists of some country made it. All scientific principles are inter-related and every discovery or invention is bound to involve the contributions of a great many people. But during our visit it was explained that a new process for manufacturing pure oxygen and using it in the manufacture of steel seemed to be in the making as an outgrowth of fundamental research in physical chemistry. This process, which also

looked very promising to visiting scientists in this field, can be expected to revolutionize the manufacture of steel with big reductions in cost, if it works as well as it looks now. Certainly, no one saw in advance this or any other specific application from the fundamental researches from which it emerged.

Kept Scientists at Work

Then Soviet science appears to have another advantage. Many of their most promising young scientists were kept at scientific work during the war. Thus they will have a large store of excellent seed for postwar scientific research—the kind of seed that was ground up for war in some other countries. The training and contributions of the young scientists are recognized to be of as much importance to the strength and development of the State as the contributions of the young soldiers.

Such a core of young men working in science, together with an educational system that attempts to reach out for all those gifted along scientific lines—regardless of position, wealth, race, or sex—would seem to promise a large and growing staff of competent research workers. This type of selection for scientific training not only has the advantage of drawing into the universities a large proportion of the people in the country with talent, but also has the advantage of keeping out of the universities people without talent who simply waste the equipment and energies of the professors.

Perhaps this sounds enthusiastic. In a way it is intended to be so, especially for the principles. Likely not every scientist in a good position in the Soviet Union is competent, nor owes his position to merit alone, any more than in the United States. Perhaps the political climate for scientific work has improved since the early days

of the Soviet regime. I don't know, but I suspect it has. Certainly what I saw and the scientists whom I met, suggest high standards of both scholarship and public service. The trend appears to be upward.

But, of course, any scientist is flattered by a visit to the Soviet Union. This is because of the respect people have for science—from the lowest to the very highest—and their eagerness to learn the principles and use them. Very often a scientist must necessarily use his best efforts to obtain resources for his work—to "sell" the cultural and practical values of science to those who control funds and governmental programs. Frequently another large part of his best efforts must be spent in convincing people to use the principles once they have been discovered. Apparently neither of

these problems exists to an important extent in the Soviet Union, even with the fundamental sciences.

Work for Industry, Farms

Much work, and on a vast scale, is being done in the fields of applied science in both industry and agriculture. For example, enormous efforts are being made to develop new and harder types of fruits, vegetables, and cereals adapted to the soils and climate of Siberia. Intensive work is under way in all phases of applied soil science—reclamation of salty soils, improved techniques of irrigation, more effective fertilization, soil erosion control, and so on. But in addition—indeed to insure continual success in these undertakings—a strong research program in fundamental soil science is supported.

We in the United States have already benefited greatly from the Russian work in fundamental soil

science, although such research is supported to only a limited extent here. Progress in many fundamental sciences in the United States has been more or less sporadic and accidental since such a large proportion of it has followed rich endowments of private institutes. By unfortunate chance, no wealthy individual has seen fit to establish an institute for research in fundamental soil science. Indeed, probably few Americans even think of soil science except as "scientific" gardening and field husbandry.

A general comparison between the science of the United States and that of the USSR would be very difficult. Certainly technology has been more widely applied in the United States and a larger percentage of our people now have the direct benefit of it. But the rate of development during the past 20 years has probably been greater in Russia—much greater in terms of

the individual—for they started very far behind us.

Compared to the United States, they seem to be short of the complex but standard medical equipment, in terms of their population. Of course, we are too in many parts of the country.

In fundamental science comparisons between the two countries would indicate that we are ahead in some special fields and they in others. But unless something important is done to encourage scientific research in the United States and to draw more of our talented young men and women into it, a comparison will likely be embarrassing to us in another generation.

Symmetry in Science Featured in Soviet Set-up

Several American scientists were recently guests of the Academy of Sciences of the USSR at a jubilee session commemorating the 220th anniversary of its founding. Among them was Dr. Charles E. Kellogg, chief of the division of soil survey in the United States Department of Agriculture, who has written a series of seven short sketches based upon his experience. The invitation came to Dr. Kellogg personally and he went as a private citizen, not as an official representative of any group or organization.

By Charles E. Kellogg

III

Cultural Autonomy

The symmetry in Soviet science involves balance not only between fundamental and applied science, but also among the sciences. I



Kellogg

was especially impressed with the extensive efforts in linguistics and other sciences essential to an understanding of the many ethnic and cultural groups in the Soviet Union. Grammars have been prepared for languages not having them. Rather than seeking uniformity, special efforts are made to promote the local languages and cultural institutions. A distinguished guest at the Jubilee Session from faraway Yakutsk in eastern Siberia was a scientific and cultural historian, who is piecing together the cultural development of this region, particularly its scientific aspects.

People in the Yakut district have been obliged to adapt themselves to a special environment. They are developing crop and livestock production in a cold region where the subsoil is ever frozen—where the summer days and winter nights are almost continuous. The cold in winter is notorious; and the hottest day I experienced during my visit was one I spent at Yakutsk. Different methods must be used to construct roads and buildings on such soil. Drainage and water supply problems are unlike those of Europe and America. What they have already learned through experience, bound up with their culture, furnishes the framework for new research and new applications of the principles.

Great progress is everywhere, in the very air itself. But this is being accomplished through the development of the culture of the Yakuts, not by substituting some other culture.

Must Leave Yakut

People who expect to take a leading part in the affairs of the Soviet Union learn Russian, of course; but the schools at Yakutsk are conducted in Yakut. Even more, Russian officials stationed in

this region may send their children to Russian schools if they wish, but they must learn Yakut!

Similar programs of research and cultural development apply in the other regions. All this may seem like a step backward to an enthusiast for a universal language like basic English, Esperanto, or what not. But it looks good to a believer in democracy, at least to me. Language is such an integral part of a cultural system that its abandonment could scarcely be expected without destroying the system itself.

This is not to imply that the people of all the various areas of the Soviet Union now enjoy the advantages of a full-fledged democracy. They don't. But certainly they are closer to it now, economically, socially, and even politically, than they were only 30 years ago. Again, any evaluation depends upon the standard of comparison and the trends. Where are they now in relation to where they were? And what is the trend?

Many Great Differences

Critics have said, "What is the difference between strict government control and policy and a one political party system whether it is Fascist or Communist?" Certainly I don't pretend to know all the implications involved in such a question nor in its reply. But there are many great differences. To take just one example: It makes a lot of difference whether officers in the army, in factories, and on farms are immediately disposed if they discriminate against people because of race, language, or sex, or whether, as in Germany, they were disposed if they did not.

Ultimately, a democracy depends upon responsible individual citizens. The Anglo-Saxons have had several hundred years of experi-

ence in developing workable concepts of individual liberty and citizenship. Our system is the outgrowth of millions of jury trials, administrative experiments, and modifications of law. The Soviets have had scarcely 25 years.

Strong Local Government

Further, democracy requires strong responsible local governments, tied to and supporting the central government without being entirely dependent on it or completely subservient to it. An approach to this end would seem to be through the improvement of the cultural forms indigenous to each area, rather than by substituting something else. Cultural areas or groups in the Soviet Union take great pride in their own cultural achievements. They have adopted new economic, technical, and political methods, to be sure, but within the framework of their own culture.

These scientific studies of local cultural groups are directed toward helping the people of each group to understand themselves and other peoples. This general policy not only lays a foundation for gradually increasing local autonomy and democracy, but also insures mutual appreciation and inspiration within the country. Local patriotism is high, but rather than existing at the expense of national patriotism seems rather to augment it.

Russian Scientists Seek Farm Improvements as Agriculture Moves Forward With Industry

By Charles E. Kellogg
IV

Agriculture

Farming still gives a livelihood to an enormous number of people in the Soviet Union, despite the

relatively, great expansion of industry. Scientific work is directed toward agricultural improvement and toward the welfare of farm people quite as much as toward industry. The war has, of course, brought many changes.

In vast areas buildings and livestock were destroyed and many of the people killed. Although women have always worked a great deal they have assumed by far the greater share of farm work during the war. From one small collective farm with 280 families that I visited, over 300 young men and about

75 young women went into the Army. Others have taken jobs in industry. Of the 325 workers on the farm now, most are women.

At the same time every effort has been made for increasing production. New techniques requiring little or no critical material were widely adopted. Soil scientists worked out makeshifts for using peat and wood ashes in composts with manure to substitute for fertilizers, as much of the fertilizer manufacturing capacity was destroyed or diverted to other uses during the war. Many of the tractors wore out, but the big tractor factory at Stalingrad has already been restored to production.

Farms Not Scattered

Perhaps the first and most striking thing about the Russian countryside to an American is the lack of "scattered farms." Less than one half of the farm families of the world live by themselves on separate homesteads like most of them do in the United States. More than one half live in villages and farm the land around them. This latter type of organization predominates in eastern Europe and in Asia.



Kellogg

Of course, there is nothing new about this way of living in Russia. It is a very old pattern. Before the Revolution some of the peasants worked on land of large estates that belonged to individuals, especially to members of the aristocracy. Others worked on land that was owned by the village. A few middle-class individual farms existed, but now these have apparently been mostly absorbed into either state farms or collective farms. Of these two kinds of farms—state and collective—there are many more of the latter. The state farms were organized out of appropriated land, land taken over by the government during the Revolution. On these farms operations are directed by paid managers and the workers are on a salary. Roughly, the organization is somewhat like that of a big "factory" farm or plantation in the United States, except that the manager is employed by a government agency instead of a private citizen or board of directors, and the workers share a bonus, given in kind, if production exceeds the plan.

Land Equally Divided

In the old villages the land was divided into strips according to the number of villagers in relation to the total area available. Since there would be different soils within the area, there were several sections according to land quality, with the result that a farm family would often have several little strips miles apart. On them it was impracticable to use modern equipment. Further, there was little incentive for a farmer to follow such practices as fertilization, crop rotations, and weed control, since the strips were redivided and reallocated from time to time with changes in population of the village. Thus to use modern methods it was obviously necessary to throw the land together in large fields and orchards. Since the village really "owned" the land in common and recognition had to be given changes in population within the village, it was decided to farm the land together and divide the produce.

To throw together into a collective organization a group of individual farms, as we have them in the United States, would bring many complications. But in the Soviet Union the farmers were already in villages and already thought of the land in terms of

village control. On the whole, to have divided the village land into individual scattered farms would have been as radical a change for most of them, probably even more so, than was the formation of a collective.

Select Farm Director

The people on the collective farm select a committee and a chairman, or director, from among themselves to operate the farm. They work out the detailed plans for the operation within the general framework given them by the district authorities. Changes in the general plan are matters of petition and adjustment between the representatives of the collective and the government officials of the district.

Presumably new scientific developments can be applied more quickly and directly on a state farm than on a collective because of its more immediate supervision by the government. Thus the state farms become models for the collectives. But in this respect I could see little difference between the state farm and the collective that I visited. Both were doing a much better job on the production side than I had expected, especially after learning of the appalling shortages of machines and materials. On both I even saw relatively new plantings of trees and small fruits.

I received the distinct impression, how generally true I cannot say, that a much better job was being done with production than with marketing. Each family on both kinds of farms has a small piece of land, say one quarter to three quarters of an acre depending on the soil, for home production, as well as grazing rights for a cow and two pigs. On the collective, the farm family owns this land and their own house. The government collects for taxes about one quarter (27 per cent on the collective I visited). Except for another small percentage for seed and other expenses, the remainder goes to the workers, in kind, and is divided among them according to the relative skill required for their job on the farm.

No Collective Sales

The question immediately arose as to why not market all the farm produce collectively, as farmers in the United States commonly do through cooperatives? It would

seem that the produce could be graded and handled much more efficiently. But this question was countered with another: Suppose one person wanted to market his cucumbers or tomatoes this week and another next week? If collective marketing were required, they would lose this right.

This makes an interesting comparison on individual rights. Many people in the United States advocate farm cooperatives for marketing and regard collective farm production (except on large privately owned farms) as threats to individual rights. The Russians with whom I discussed the matter took the opposite view: collective production is good, but collective marketing might jeopardize individual rights. Such views reflect the different histories of agricultural development.

There is much more agricultural land to be occupied in the Soviet Union than in the United States. But in both places scientific techniques will play a large role in the opening up of new land. In fact, large areas of good land waiting only for the plow exist nowhere in the world. Enormous efforts are being put forth by agricultural

scientists in the Soviet Union to develop satisfactory methods for production in the northern, cold parts of the country and in the semiarid region. They have vast areas of "Solonchak" and "Solonetz" soils—roughly equivalent to our salty and alkali soils of the

West. Certainly great progress toward occupying these areas is in the making.

On the good land now occupied, there is much room for improvement in both countries. But unquestionably American farmers have more to do with and are more

efficient.

Can the Soviet Union increase production by 50 per cent over prewar in a generation to take care of their expanding population? I believe so, and probably considerably more, provided they have peace.

Scientist Finds Russia Is Land of Clean Streets and No Billboards

By Charles E. Kellogg

Ways of Living

Ways of living in the Soviet Union are not entirely like ours. A visitor for three weeks sees mostly the little things and is



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improvisations.

My hotel, for example, was about the same as a large modern American hotel. The beds were harder, but I like them so. The trains were arranged differently but were equally convenient. One exchanges similar courtesies with those he meets, both men and women, as in America. (If anything, good manners are at a little higher premium in Russia than in the United States.)

The streets of Russian cities amazed me. In most ways they are ordinary streets, some concrete, some asphalt, and some cobblestone. On the whole, the main streets are wider than those in American cities. But I've never seen such clean streets. People just don't throw cigarette butts, matches, old newspapers, and similar rubbish on the streets.

The same holds for the subway trains and stations in Moscow. Each underground station is a unique place. Great crowds ride the escalators, through the stations, and pack the cars—but no litter. I didn't find out how they managed, except a citizen told me that if one doesn't throw rubbish on his floor at home, he doesn't throw it on the floor of his subway car or on his street.

Highways Are Cleared

Then, too, there are no billboards or other advertising signs in the subways, or along the streets and country roads. Would that such a great boon might come to our American cities!

How many "victory" gardens there are in Moscow I don't know. But land not used for streets and buildings is in gardens—little ones and big ones of all shapes. The people of a city can raise a lot of food when they must.

Women work at all sorts of jobs. A unit of soldiers tore up a section of streetcar track and repaved the street in front of my hotel a few days before the victory parade. About one third were young women. It is the usual thing to see more women than men in a group of bridge builders, plasterers, or carpenters. And they seem none the worse for it. Nor do they consider it unusual. In all trades and professions women appear to have equal rights, not just in theory and law but in public opinion.

Excellent Nurseries

The young children are cared for during the day in nurseries where they are fed, play, and have their naps. Those I saw appeared to be very clean and well organized, although I'm no expert in such matters. One whole end of the big railway station in Novosibirsk is used for first aid rooms and nurseries to accommodate mothers with small children that must wait for trains.

Russian fondness for the opera and theater is notorious. Those in Moscow and Leningrad are well known, but they are also being developed in the little cities and the new cities of Siberia. Novosibirsk, far in Siberia, has seven theaters and a beautiful new opera house, built during the war. There were no theaters in 1930; but in 1930 the population was only 80,000, now it is 900,000! Whereas an ordinary American would require modern household gadgets first of all, the Russian would likely put the opera ahead of these.

Provide Different Versions

These are little things, and a very small sample at that of the thousands of things involved in living. Many books describe others. Some of these ways of doing things may seem better than ours to some. Yet on the whole most Americans, of course, prefer

our ways. The point is simply that they are different and they add up to somewhat different combinations of tastes and living values.

Even though the Soviet system becomes progressively more democratic, as I believe it will, it will never be like ours. But both countries can have social systems and living standards that are different, yet no one able to say which is better.

Both Americans and Russians are doing a lot of new things. Each can learn from the other, without needing to emulate his whole cultural pattern. With agreement on the fundamentals of international justice, mere differences in culture become stimulations rather than causes for conflict.

Region in Russia Resembles Lake States of Northern U. S.

Several American scientists were recently guests of the Academy of Sciences of the USSR at a jubilee session commemorating the 220th anniversary of its founding. Among them was Dr. Charles E. Kellogg, chief of the division of soil survey in the United States Department of Agriculture, who has written a series of seven short sketches based upon his experience. The invitation came to Dr. Kellogg personally and he went as a private citizen, not as an official representative of any group or organization.

By Charles E. Kellogg

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Leningrad

Part of the Jubilee Sessions of the Academy of Sciences were held in Leningrad. A special train took the members and their guests from



Kellogg the appearance of the fields and forests.

Moscow is a great sprawling city that has spilled over its margins several times during its long history. It has wide avenues and beautiful buildings dating from medieval to modern times. But these set in the city as fine specimens that often clash with one another in form and rhythm. Leningrad is entirely different. Peter planned the city as a whole. Not only are the canals, avenues, and buildings beautiful specimens, but the whole fits together into a great architectural symphony. One thinks of Paris and Rotterdam, but still it is Russian.

Many Buildings Hurt

At first glance the central part of the city seems but little damaged. The old bridges across the Neva were scarcely touched. But with a more careful look one finds many buildings badly hurt inside. Some were completely destroyed,

although usually the outside walls were the very last part to crumble. Of course, many windows were broken and replaced with boards since glass is scarce. The people are busy rebuilding and repairing. Fresh plaster and paint are needed to cover up the weird camouflage designs painted on for protection during the war.

The defense of Leningrad will be a glorious symbol of determination of the Soviets to be free as long as histories are written. The ordinary words and phrases used to describe food shortages, cold, fatigue, bombing, and the rest are quite inadequate. At least I had previously failed to sense the depth of the struggle.

For long periods the city was essentially surrounded, strategically defeated. The defenders were squeezed into a small space and pounded from all sides. Every resource had to be utilized, even the vitamins in the pine needles. Some communication with the rest of the country continued by air, and during winters over the ice on Lake Ladoga.

Resistance Continued

The German armies had printed passes and other forms for use during their expected occupation of the city. There was nothing ridiculous in this. By all the rules the city was in a hopeless military condition. But the resistance continued. People essential to defense got rations—inadequate rations. Others had less. No official figures were given on civilian casualties, but they must have run into hundreds of thousands.

The great steel factory on the southern edge of the city continued operations throughout the siege in spite of 70,000 bomb hits. Thousands of workers died in it from their wounds, from starvation, and from sheer fatigue. Yet at one time they were even sending some critical products by air to Moscow.

Beyond the steel factory—or elsewhere into the suburbs—all is ruined. The land is worse than ruined, since it will take months, or perhaps years, to remove the mines and get the rubbish cleared away.

Museum Destroyed

Back of the former defense lines were many universities, museums, and other cultural institutions. I visited Peterhof, the famous palace of Peter the Great that had been turned into a large

cultural museum. This the Germans had wantonly destroyed. They had even poured explosives into the lower pipes and blew up the fountains. What would burn was burned. It scarcely seems believable that men of Western culture would do such things.

Apparently surrender was never seriously considered by the citizens of Leningrad as a reasonable alternative to the death struggle. Certainly leadership was very important to defense. Communications were maintained as well as possible. Soldiers and defense workers were organized. Rationing was arranged. Leadership did all the usual things. But no leadership could ever supply the will to resist that dominated the citizens of Leningrad.

One comes away from Leningrad much sobered by his experience and with a profound respect for the solid patriotism and love of liberty of the common people of Russia.

Russian Scientists Realize Need of Understanding in U.S.

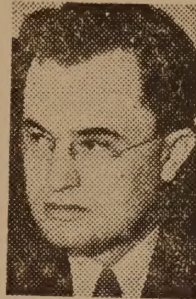
Several American scientists were recently guests of the Academy of Sciences of the USSR at a jubilee session commemorating the 220th anniversary of its founding. Among them was Dr. Charles E. Kellogg, chief of the division of soil survey in the United States Department of Agriculture, who has written a series of seven short sketches based upon his experience. The final article follows.

By Charles E. Kellogg
VII

Mutual Understanding

Thoughtful citizens in both the United States and the Soviet Union see the need for getting better acquainted. Indeed probably nothing else is as important to world peace.

Likely this idea lay back of the Jubilee Session of the Academy of Sciences in the USSR. Scientists have an advantage in their work: the language of science is international.



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Then mutual confidence in scientific matters can lead to mutual respect for ideas in other phases of culture.

Russians have an open frankness in the exchange of ideas that seemed to me more nearly American than European. The "wise" fellow, who "keeps his mouth shut and eyes and ears open" will not be easily accepted or learn much from the Russians. They seemed not to like or trust such people. Of course, they can keep secrets when necessary; in fact security was one of their best weapons during the war.

Want Frank Criticism

Then there is the person who finds everything in the Soviet Union "just wonderful." He is suspected of being a hypocrite, because the Russians themselves know better. But this doesn't mean that they like the reporter who only opens his notebook when he sees something wrong or that he regards as inferior to its counterpart in the United States.

They seemed to appreciate deeply frank criticism, the kind that regards both good and poor and that relates the present conditions in the Soviet Union to those of 30 years ago as well as to those in the United States now.

What proportion of the Russians are suspicious of Americans, I don't know at all. But certainly some are, and some of the secret police. Perhaps the most fundamental question of these Russians is whether or not some among us don't really want them to fail. Their reasoning seems to go like this. The Russians are certain in their own minds, at least a large part of them are, that their economic and political system is superior to ours. Further, they believe that with a few years of peace the rapid progress they will make will be so convincing to the majority of citizens in the United States and elsewhere that they will demand a similar system in their own countries.

Put on Their Guard

Whether they are right or wrong in these views is beside the point. They hold them. Further, they believe that some people in the United States, who would stand to lose by such a change, know these things too and want very much to sabotage progress in the Soviet Union.

Such an attitude may cause Russian officials to guard their prerogatives in foreign affairs closely. It may make individual citizens of the Soviet Union wary of correspondence with Americans that might be misunderstood by their own police. Similar mistakes by American official and semiofficial groups, accusing citizens of "Red sympathies" or of being "fellow travelers," while irritating, do not usually lead to serious consequences.

More traveling by representative citizens of each country among the people of the other is certainly necessary. No amount of censorship or control will help. As more and more Americans become convinced of the competence, the responsibility, the earnest desire for peace, and the good will of the people of the Soviet Union, those who might want to injure them will find fewer and fewer clients. My own personal view, limited to be sure, is that most Americans wish all success to the Soviets in their peaceful undertakings. And I believe the citizens of Soviet Russia admire Americans and wish us well.

In other words, I believe that the great mass of people in both countries want to understand one another. When they do, they will get on together. Then can we be confident of the continuity of an effective United Nations organization to maintain the peace.







